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Chippewa Paper Products, Inc., Chicago, Ill.
Continental Bag Specialties Corp., New York, N. Y.
Continental Paper & Bag Corp., New York, N. Y.
Cupples-Hesse Envelope & Litho. Co., St. Louis, Mo.—139
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Milprint Products Corp., Milwaukee, Wis.
Munson Bag Co., The, Cleveland, O.—131
Oneida Paper Products, Inc., New York, N. Y.
Royal & Co., Thomas M., Philadelphia, Pa.—126-127
Shellmar Products Co., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—133
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BALE TIES

Acme Steel Co., Chicago, Ill.—431
American Steel & Wire Co., Chicago, Ill.
Gerrard Co., Inc., Chicago, Ill.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, The, New Britain, Conn.

BARREL HEAD LINERS

Angier Corp., Framingham, Mass.
Consolidated Paper Co., Monroe, Mich.—451
Edgewater Paper Co., Menasha, Wis.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Hinde & Dauch Paper Co., Sandusky, O.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paterson Parchment Paper Co., Bristol, Pa.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463

BOTTLE PACKS (Molded Pulp)

Hole-Tite Packing Corp., New York, N. Y.
Keyes Fibre Container, Inc., Waterville, Me.
Owens-Illinois Glass Co., Toledo, O.—242-245
Pulp Products Co., Inc., New York, N. Y.
Traver Corp., Chicago, Ill.

BOTTLES, ALUMINUM

Aluminum Co. of America, Pittsburgh, Pa.—209
American Aluminum Ware Co., Newark, N. J.

BOTTLES, APPLIED COLOR

Capstan Glass Co., Connellsville, Pa.—236-237
Dura Colors, Inc., Cleveland, O.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Salem Glass Works, Salem, N. J.—236-237
Thatcher Mfg. Co., Elmira, N. Y.

BOTTLES, BEVERAGE

Buck Glass Co., Baltimore, Md.
Capstan Glass Co., Connellsville, Pa.—236-237
Chattanooga Glass Co., Chattanooga, Tenn.
Cunningham Glass Co., D. O., Pittsburgh, Pa.
Diamond Glass Co., Royersford, Pa.
Fairmount Glass Works, Inc., Indianapolis, Ind.
Federal Glass Co., Columbus, O.—231
Glenshaw Glass Co., Glenshaw, Pa.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hart Glass Mfg. Co., Dunkirk, Indiana
Hazel-Atlas Glass Co., Wheeling, W. Va.
Hemingray Glass Co., Muncie, Ind.
Laurens Glass Works, Laurens, S. C.
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Reed Glass Co., F. E., Rochester, N. Y.
Root Glass Co., Terre Haute, Ind.
Salem Glass Works, Salem, N. J.—236-237
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOTTLES, COLORED

Capstan Glass Co., Connellsville, Pa.—236-237
Federal Glass Co., Columbus, O.—231
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Salem Glass Works, Salem, N. J.—236-237

BOTTLES, FANCY

Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connelsville, Pa.—236-237
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmount Glass Works, Inc., Indianapolis, Ind.
Foster-Forbes Glass Co., Marion, Ind.
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hart Glass Mfg. Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Imperial Glass Corp., Chicago, Ill.
Latchford Class Co., Huntington Park, Cal.
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Salem Glass Works, Salem, N. J.—236-237
Swindell Brothers, Baltimore, Md.
Wheaton Co., T. C., Millville, N. J.
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOTTLES, FOOD PACKING

Ball Bros., Muncie, Ind.
Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—236-237
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmount Glass Works, Indianapolis, Ind.
Federal Glass Co., Columbus, O.—231
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hart Glass Mfg. Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Maryland Glass Corp., Baltimore, Md.—225
Olean Glass Co., Olean, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Reed Glass Co., F. E., Rochester, N. Y.
Salem Glass Works, Salem, N. J.—236-237
Tygart Valley Glass Co., Washington, Pa.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOTTLES, MILK

Buck Glass Company, Baltimore, Md.
Hamilton Co., J. T. & A., Pittsbugh, Pa.
Knox Glass Bottle Co., Knox, Pa.
Lamb Glass Co., Mt. Vernon, O.
Liberty Glass Co., Sapulpa, Okla.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Reed Glass Co., F. E., Rochester, N. Y.
Thatcher Mfg. Co., Elmira, N. Y.
Three Rivers Glass Co., Three Rivers, Texas
Universal Glass Products Co., Parkersburg, W. Va.

BOTTLES, PAPER

American Can Co., New York, N. Y. (milk)
American Paper Bottle Co., Toledo, O.
Gardner-Richardson Co., The, Middletown, O. (milk)—76-77
Lily Tulip Cup Corp., New York, N. Y.
Menasha Products Co., The, Menasha, Wis.
Mono Service Co., Newark, N. J.
National Folding Box Co., New Haven, Conn.
Pulp Products Co., Inc., New York, N. Y.
Purity Paper Vessels Co., The, Baltimore, Md.
Reed Container Corp., New York, N. Y.
Ritchie & Co., W. C., Chicago, Ill.—55
Russell Box Co., Medford, Mass.
Sealright Co., Inc., Fulton, N. Y.
Sutherland Paper Co., Kalamazoo, Mich.

BOTTLES, PROPRIETARY AND GENERAL

American Glass Works, Richmond, Va.
Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—236-237
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmount Glass Works, Inc., Indianapolis, Ind.
Federal Glass Co., Columbus, O.—231
Foster-Forbes Glass Co., Marion, Ind.
Gayner Glass Works, Salem, N. J.
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hagerty Bros. & Co., New York, N. Y.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hart Glass Mfg. Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Kimble Glass Co., Vineland, N. J.—233
Knox Glass Bottle Co., Knox, Pa.
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Pennsylvania Glass Products Co., Pittsburgh, Pa.
Pierce Glass Co., Port Allegany, Pa.
Reed Glass Co., F. E., Rochester, N. Y.
Salem Glass Works, Salem, N. J.—236-237
Swindell Brothers, Baltimore, Md.
Three Rivers Glass Co., Three Rivers, Texas
Wheaton Co., T. C., Millville, N. J.
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOTTLES, TRANSPARENT (Celluloid and Cellulose)

Celluloid Corp., New York, N. Y.—154
Emeloid Co., Inc., Arlington, N. J.—121
Fiberloid Corp., The, Indian Orchard, Mass.
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91

BOX BOARD, ASPHALT LINED

Butterfield-Barry Co., New York, N. Y.—157
Consolidated Paper Co., Monroe, Mich.—451
Eddy Paper Corp., The, Three Rivers, Mich.
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Kieckhefer Container Co., Milwaukee, Wis. and Delair, N. J.
Rockford Fibre Container Co., Rockford, Ill.
Sisalkraft Co., Chicago, Ill.

BOX BOARD, CLAY-COATED

American Coating Mills, Inc., Elkhart, Ind.—72-73
Butterfield-Barry Co., New York, N. Y.—157
Container Corp. of America, Chicago, Ill.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81
National Folding Box Co., New Haven, Conn.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
United Paperboard Co., Inc., New York, N. Y.
Wabash Coating Mills, Wabash, Ind.

BOX BOARD, FOLDING

Alton Box Board & Paper Co., Alton, Ill.
American Coating Mills, Inc., Elkhart, Ind.—72-73
Butterfield-Barry Co., New York, N. Y.—157
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Continental Color Corp., Cleveland, O.—435
Federal Paperboard Co., Inc., Bogata, N. J.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Lawless Bros. Paper Mills, East Rochester, N. Y.
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81
Marathon Paper Mills, Rothschild, Wis.
Michigan Carton Co., Battle Creek, Mich.—87
Middlesex Products Co., Cambridge, Mass.—Insert 180-181
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Ohio Boxboard Co., Rittman, O.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Republic Paperboard Co., Cincinnati, O.
Robertson Paper Box Co., Montville, Conn.
Schmidt & Ault Paper Co., York, Pa.
Sutherland Paper Co., Kalamazoo, Mich.
United Paperboard Co., Inc., New York, N. Y.

BOX BOARD, FOLDING (Metallic Coated)

Aldine Paper Co., New York, N. Y.
American Foil Corp., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Butterfield-Barry Co., New York, N. Y.—157
Dennison Mfg. Co., Framingham, Mass.—67
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81
McLaurin-Jones Co., Brookfield, Mass.—178-179
Marvellum Co., Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
National Folding Box Co., New Haven, Conn.
New England Card & Paper Co., Inc., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Reynolds Metals Co., New York, N. Y.—Insert 156-157
United Mfg. Co., The, Springfield, Mass.—Insert 182-183

BOX BOARD, SET-UP

Alton Box Board & Paper Co., Alton, Ill.
Butterfield-Barry Co., New York, N. Y.—157
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Continental Paper Co., Bogota, N. J.
Downingtown Paper Co., Downingtown, Pa.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Co., Inc., Robert, New York, N. Y.—306
Lawless Bros. Paper Mills, East Rochester, N. Y.
McEwans & Sons, R. B., Whippany, N. J.
National Folding Box Co., New Haven, Conn.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Republic Paperboard Co., Cincinnati, O.
Sutherland Paper Co., Kalamazoo, Mich.
United Paperboard Co., Inc., New York, N. Y.

BOX REINFORCEMENT (Flat Strapping, Wire and Tools)

Acme Steel Co., Chicago, Ill.—431
American Steel & Wire Co., Chicago, Ill.
Gerrard Co., Inc., Chicago, Ill.
Parker Machine Works, Riverside, Cal.
Seneca Wire & Mfg. Co., Fostoria, O.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, The, New Britain, Conn.
Tennant Sons & Co., C., New York, N. Y.

BOX RIBBONS (Ties, Tinsel, etc.)

Adirondack Tinsel Co., Hudson Falls, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Chicago Printed String Co., Chicago, Ill.—151
Dennison Mfg. Co., Framingham, Mass.—67
Du-Tone Ribbon Corp., New York, N. Y.—163
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., Inc., New York, N. Y.—159.
Hy-Sil Mfg. Co., Revere, Mass.
Milwaukee Printed String Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Stark Bros. Ribbon Corp., New York, N. Y.
Taft Co., R. C., Chicago, Ill.
Walser Mfg. Co., Inc., Clifton, N. J.
W-E-R Ribbon Corp., New York, N. Y.

BOX STAYS (White, Gray, Plain and Creased)

Knowlton Co., M. D., Rochester, N. Y.—371
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Williams & Co., Inc., Chas. W., New York, N. Y.

BOX TOP PADDING

American Lace Paper Co., Milwaukee, Wis.
Kimberly-Clark Corp., Neenah, Wis.—454-455
Milwaukee Lace Paper Co., Milwaukee, Wis.
Traver Corp., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Union Wadding Co., Pawtucket, R. I.

BOX WRAPS

See Lithographers and various Paper headings.

BOXES, CELLULOID AND CELLULOSE

Celluloid Corp., New York, N. Y.—154
Emeloid Co., Inc., Arlington, N. J.—121
Fiberloid Corp., The, Indian Orchard, Mass.
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
See-Thru Container Corp., Long Island City, N. Y.—119
Sillcocks-Miller Co., South Orange, N. J.

BOXES, CORRUGATED AND SOLID FIBRE

AAAAAA Ace Paper Box Corp., New York, N. Y.
Agar Mfg. Corp., Whippany, N. J.
Albany Corrugated Container Corp., Albany, N. Y.
American Can Co., New York, N. Y.
American Corrugating Co., Grand Rapids, Mich.
Andrew Co., O. B., Chattanooga, Tenn.
Ashtabula Corrugated Box Co., Ashtabula, O.
Bird & Son, Inc., East Walpole, Mass.
Brack Container Corp., Rochester, N. Y.
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Corning Fibre Box Corp., The, Corning, N. Y.
Corrugated Container Co., Philadelphia, Pa.
Corrugated Container Corp., Columbus, O.

Crescent Box Corp., Philadelphia, Pa.
Dexter Folder Co., New York, N. Y.—441-446
Eddy Paper Corp., The, Three Rivers, Mich.
Eggers-O'Flying Co., Omaha, Neb.
Evans Fibre Box Co., Chicago, Ill.
Federal Container Co., Philadelphia, Pa.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Wayne Corrugated Paper Co., Fort Wayne, Ind.
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Gaylord, Inc., Robert, St. Louis, Mo.
Hercules Paper Box Co., Columbus, O.
Hinde & Dauch Paper Co., The, Sandusky, O.
Hummel & Downing Co., Milwaukee, Wis.
Hunt-Crawford Co., The, Coshocton, O.
Inland Box Corp., Indianapolis, Ind.
Iowa Fibre Box Co., Keokuk, Iowa
Kieckhefer Container Co., Milwaukee, Wis. and Delair, N. J.
Kress Box Co., F. J., Pittsburgh, Pa.
Mengel Co., Louisville, Ky.
National Container Corp., Long Island City, N. Y.
National Metal Edge Box Co., Philadelphia, Pa.—61
New Orleans Corrugated Box Co., Inc., New Orleans, La.
Ottawa River Paper Co., Toledo, O.—313
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Paraffine Co., Inc., The, San Francisco, Cal.
River Raisin Paper Co., Monroe, Mich.
Rochester Folding Box Co., The, Rochester, N. Y.
Rockford Fibre Container Co., Rockford, Ill.
Schmidt Lithograph Co., San Francisco, Cal.
Schultz Co., A. Geo., Milwaukee, Wis.
Southern Container Co., Houston, Texas
Texas Corrugated Box Co., Dallas, Texas
Wabash Fibre Box Co., Terre Haute, Ind.
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., Bridgeport, Conn.—63
Weber & Co., David, Philadelphia, Pa.

BOXES, FANCY LEATHERETTE

Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Bisler, Inc., G. A., Philadelphia, Pa.—85
Buedingen Co., Inc., Ferdinand, Rochester, N. Y.—107
Buedingen & Son, Wm., Rochester, N. Y.—89
Dennison Mfg. Co., Framingham, Mass.—67
Durand Mfg. Co., Chicago, Ill.
Eureka Paper Box Corp., Chicago, Ill.—115
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
Lebanon Paper Box Co., Lebanon, Pa.—71
Mason Box Co., Attleboro Falls, Mass.
Mutual Paper Box Co., Chicago, Ill.
Parks Co., N. W., New York, N. Y.—101
Ritchie & Co., W. C., Chicago, Ill.—55
Smith Co., The, S. K., Chicago, Ill.—75
Voss Corp., Karl, Hoboken, N. J.—105
Warner Bros Co., Bridgeport, Conn.—63
Weaver Mfg. Co., Mount Holly, N. J.—113

BOXES, FANCY WOOD

Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Dennison Mfg. Co., Framingham, Mass.—67
Mele Mfg. Co., New York, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Parks Co., N. W., New York, N. Y.—101
Peterson Bros., Chicago, Ill.—111
Pilliod Cabinet Co., The, Swanton, O.—59
Rueckert Mfg. Co., Providence, R. I.—93
Warner Bros. Co., Bridgeport, Conn.—63
Weaver Mfg. Co., Mount Holly, N. J.—113
Young Bros., Inc., Providence, R. I.

BOXES, FOLDING AND DISPLAY CARTONS

AAAAAA Ace Paper Box Corp., New York, N. Y.
Ace Carton Corp., Chicago, Ill.
American Coating Mills, Inc., Elkhart, Ind.—72-73
American Colortype Co., Chicago, Ill.
Atlantic Carton Corp., Norwich, Conn.
Badger Carton Co., Milwaukee, Wis.
Bloomer Bros. Co., Newark, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brooks & Porter, Inc., New York, N. Y.—Insert 64-65
Brown & Bailey Co., Philadelphia, Pa.
Burt Co., Inc., F. N., Buffalo, N. Y.—79
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Chicago Carton Co., Chicago, Ill.
Chippewa Paper Products, Inc., Chicago, Ill.
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Continental Folding Paper Box Co., Ridgefield, N. J.
Crook Paper Box Co., Kansas City, Mo.
Deisroth Co., Inc., W. H., Philadelphia, Pa.—65
Dennison Mfg. Co., Framingham, Mass.—67
Densen-Banner Co., Inc., New York, N. Y.
Downingtown Paper Box Co., Downingtown, Pa.
Einson-Freeman Co., Inc., Long Island City, N. Y.—Insert 298-299
Empire Box Corp., New York, N. Y.
Fibreboard Products, Inc., San Francisco, Cal.
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Fitzhugh-New Haven Corp., New Haven, Conn.
Forbes Litho. Mfg. Co., The, Boston, Mass.—303
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Fort Wayne Paper Goods Co., Fort Wayne, Ind.
Gair Cleveland Cartons, Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Gebhart Folding Box Co., Dayton, O.
General Carton Corp., Brooklyn, N. Y.
Gereke-Allen Carton Co., St. Louis, Mo.
Guilford Folding Box Co., Baltimore, Md.—117
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Hinde & Dauch Paper Co., The, Sandusky, O.
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
Hummel & Downing Co., Milwaukee, Wis.
Indianapolis Paper Container Co., Indianapolis, Ind.
International Folding Paper Box Co., Inc., North Bergen, N. J.
International Printing Co., Indianapolis, Ind.
Interstate Folding Box Co., Middletown, O.
Lebanon Paper Box Co., Lebanon, Pa.—71
Lord Baltimore Press, Baltimore, Md.
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81
Menasha Products Co., Menasha, Wis.
Michigan Carton Co., Battle Creek, Mich.—87
Milprint Products Corp., Milwaukee, Wis.
Morris Paper Mills, Chicago, Ill.
Myers, Inc., J. & P. B., Jersey City, N. J.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
New England Collapsible Tube Co., New London, Conn.; Chicago, Ill., and New York, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Paper Package Co., Indianapolis, Ind.
Pictorial Paper Package Corp., Aurora, Ill.
Randolph Box & Label Co., Chicago, Ill.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Richardson-Taylor-Globe Corp., Cincinnati, O.—97
Robertson Paper Box Co., Inc., Montville, Conn.
Rochester Folding Box Co., Rochester, N. Y.
Rossetti Lithographing Co., New York, N. Y.
Russell Box Co., Medford, Mass.
Sample-Durick Co., Inc., Indian Orchard, Mass.
Schultz Co., A. Geo., Milwaukee, Wis.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 410-411
Shuttleworth Carton Co., Inc., New York, N. Y.
Simplex Paper Box Corp., Lancaster, Pa.—81
Stecher-Traung Lithograph Corp., Rochester, N. Y.—Insert 258-259
Stone & Forsyth Co., Boston, Mass.
Sutherland Paper Co., Kalamazoo, Mich.
Trenton Folding Box Co., Trenton, N. J.
Trinity Paper Box Co., Dallas, Tex.
U. S. Printing & Litho. Co., The, Cincinnati, O.; Baltimore, Md.; New York, N. Y., and Chicago, Ill.—Insert 304-305 and 268-269
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., The, Bridgeport, Conn.—63
Weaver Mfg. Co., Mount Holly, N. J.—113
Wolverine Carton Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOXES, IMITATION LEATHER (Embossed and Decorated)

See Boxes, Fancy Leatherette

BOXES, MAILING

AAAAAA Ace Paper Box Corp., New York, N. Y.
American Coating Mills, Inc., Elkhart, Ind.—72-73
Atlantic Carton Corp., Norwich, Conn.
Brooks & Porter, Inc., New York, N. Y.—Insert 64-65
Brown & Bailey, Philadelphia, Pa.
Burt Co., Inc., F. N., Buffalo, N. Y.—79
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Carter Co., Wm., Paper and Box Division, Needham Heights, Mass.
Cleveland Container Co., Cleveland, O.—215
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.

Deisroth, Co., Inc., W. H., Philadelphia, Pa.—65
Dennison Mfg. Co., Framingham, Mass.—67
Eureka Paper Box Corp., Chicago, Ill.—115
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Cleveland Cartons Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Gaylord, Inc., Robert, St. Louis, Mo.
Gebhart Folding Box Co., Dayton, O.
Gereke-Allen Carton Co., St. Louis, Mo.
Hinde & Dauch Paper Co., Sandusky, O.
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
International Folding Paper Box Co., Inc., North Bergen, N. J.
Interstate Folding Box Co., Middletown, O.
Lebanon Paper Box Co., Lebanon, Pa.—71
Mason Box Co., The, Attleboro Falls, Mass.
Michigan Carton Co., Battle Creek, Mich.—87
Myers, Inc., J. & P. B., Jersey City, N. J.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Owens-Illinois Glass Co., Toledo, O.—242-245
Paper Package Co., Indianapolis, Ind.
R. C. Can Co., St. Louis, Mo.—219
Richardson-Taylor-Globe Corp., Cincinnati, O.—97
Ritchie & Co., W. C., Chicago, Ill.—55
Rowell Co., Inc., E. N., Batavia, N. Y.—103
Sample-Durick Co., Indian Orchard, Mass.
Schultz Co., A. Geo., Milwaukee, Wis.
Sears Paper Box Co., Merle, Danville, Ill.—69
Sefton Fibre Can Co., St. Louis, Mo.—207
Shoup-Owens, Inc., Hoboken, N. J.—Insert 410-411
Simplex Paper Box Corp., Lancaster, Pa.—81
Warner Bros. Co., The, Bridgeport, Conn.—63
Waterbury Paper Box Co., Waterbury, Conn.—109
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Young Bros., Inc., Providence, R. I.

BOXES, METAL

Advertising Metal Display Co., Chicago, Ill.
Aluminum Co. of America, Pittsburgh, Pa.—209
American Aluminum Ware Co., Newark, N. J.
American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Burdick & Son, Albany, N. Y.—213
Chase Brass & Copper Co., Inc., Container & Closure Division, New York, N. Y. (Powder, Rouge, Lipsticks, Compacts)
Continental Can Co., Inc., New York, N. Y.—Insert 200-201
Dennison Mfg. Co., Framingham, Mass.—67
Doehler Die Casting Co., Toledo, O.
Farrington Mfg. Co., Boston, Mass.
Goertz & Co., A., Newark, N. J.
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
Heekin Can Co., Cincinnati, O.
Kep-Ark, Inc., Boston, Mass.
Majestic Metal Specialties, Inc., New York, N. Y.
Metal Litho. Corp., Brooklyn, N. Y.—217
National Can Co., Inc., New York, N. Y.—193
Owens-Illinois Can Co., Toledo, O.—198-199
Parks Co., N. W., New York, N. Y.—101
Scovill Mfg. Co., Waterbury, Conn.
Weaver Mfg. Co., Mount Holly, N. J.—113
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

BOXES, METAL (Covered and Lined)

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Dennison Mfg. Co., Framingham, Mass.—67
Farrington Mfg. Co., Boston, Mass.
Waterbury Button Co., The, Waterbury, Conn.—285

BOXES, MOLDED PLASTIC

American Insulator Corp., New Freedom, Pa.
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Auburn Button Works, Inc., Auburn, N. Y.—283
Bakelite Corp., New York, N. Y.—287
Boonton Molding Co., Boonton, N. J.—281
Celluloid Corp., New York, N. Y.—154
Chicago Molded Products Corp., Chicago, Ill.—289
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Consolidated Molded Products Corp., New York, N. Y., and Scranton, Pa.
Diemolding Corp., Canastota, N. Y.—275
Durite Plastics, Philadelphia, Pa.
General Electric Co., Plastics Dept., Bridgeport, Conn.—Insert 272-273
General Industries Co., The, Elyria, O.
General Plastics, Inc., North Tonawanda, N. Y.—291
Kurz-Kasch Co., The, Dayton, O.—Insert 288-289
Mack Molding Co., Inc., Wayne, N. J.—293
Mundet Cork Corp., Brooklyn, N. Y.—251
Niagara Insul-Bake Specialty Co., Inc., Albany, N. Y.
Northern Industrial Chemical Co., South Boston, Mass.
Norton Laboratories, Inc., Lockport, N. Y.
Plaskon Co., Inc., Toledo, O.
Reilly Tar & Chemical Corp., Indianapolis, Ind. and New York, N. Y.—277
Resinox Corp., New York, N. Y.—278-279
Reynolds Spring Co., Jackson, Mich.
Shaw Insulator Co., Irvington, N. J.
Synthetic Plastics, Inc., New York, N. Y.
Tech-Art Plastics Co., Long Island City, N. Y.
Terkelsen Machine Co., Boston, Mass.
Waterbury Button Co., The, Waterbury, Conn.—285
Wheeling Stamping Co., Wheeling, W. Va.

BOXES, MOLDED PULP

National Folding Box Co., New Haven, Conn.
Pulp Products Co., Inc., New York, N. Y.

BOXES, PAPER SET-UP

Letters indicate general class of boxes manufactured:
A—Covering Machine-made Boxes.
B—Automatic Machine-made Boxes.
C—Hand-made Boxes.
D—Hand-made and Machine-made Boxes.
g. l.—Indicates manufacture of general line of boxes in the class specified, except certain types which are specialties or specialized in, such as Candy, Holiday, Face Powder, Perfumery, Carbon Paper, Jewelry, Cases and Shelf Boxes, Hinged Lid and Display, Slide Boxes, Cigarette Boxes, Mailing Boxes and special small boxes. These are indicated by name.

AAAAAA Ace Paper Box Corp., New York, N. Y.
Alderman Paper Box Co., Rochester, N. Y.
A, B, C and D, g.l.
Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Wood, Leather, Cloth Covered
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
C, Jewelry, Specialties, g.l., Metal, Satin lined, Wood, Leather, Paper
Bisler, Inc., G. A., Philadelphia, Pa.—85
A, B, C and D, candy and holiday
Buedingen Co., Inc., Ferdinand, Rochester, N. Y.—107
A, C and D, g.l.
Buedingen & Son, Wm., Rochester, N. Y.—89
A, B, C and D, all types
Buffington Co., F. H., Providence, R. I.
A, g.l.
Burt Co., Inc., F. N., Buffalo, N. Y.—79
A, B, C and D, face powder, perfumery, pill and drug, slide boxes, cigarette boxes
Cambridge Paper Box Co., Cambridge, Mass.
A, B, D, D, g.l., face powder, perfumery, pill and drug, slide, cigarette, candy, mailing
Campbell Box & Tag Co., South Bend, Ind.
Carter Co., Wm., Paper Box Division, Needham Heights, Mass.
Casselman, T. & E., Inc., New York, N. Y.
A, B, C, D, g.l.
Chippewa Paper Products, Inc., Chicago, Ill.
Clover Paper Box Co., Inc., Long Island City, N. Y.
A, B, C, D, g.l., and mailing boxes
Deisroth Co., Inc., W. H., Philadelphia, Pa.—65
A, B, C, D, g.l., candy, holiday, "Kwicklasp" mailing.
Dennison Mfg. Co., Framingham, Mass.—67
D—complete line of all types and specialties.
Dix, Inc., J. J., New York, N. Y.
Dorfman & Co., Inc., A., New York, N. Y.
Du-Frank Corp., Brooklyn, N. Y.
Durand Mfg. Co., Chicago, Ill.
A, B, C and D. g.l.
Eureka Paper Box Corp., Chicago, Ill.—115
A, B, C and D, g.l.
Fairchild Corp., E. E., Rochester, N. Y.
A, B, C and D, g.l.
Fleisig, Inc., H., New York, N. Y.
Fort Wayne Paper Box Co., Fort Wayne, Ind.
A, B, C and D, g.l.
Gair Cleveland Cartons Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
g.l.
Gates Paper Co., Ltd., Los Angeles, Cal.
Grand Rapids Paper Box Co., Grand Rapids, Mich.
A, B, C and D, g.l.
Henry Co., Ira L., Watertown, Wis.
A, C and D, g.l.
Hess and Densen, Inc., New York, N. Y.
A, B, C and D
Hollywood Paper Box Corp., Hollywood, Cal.
A, B and D, g.l.
Holman Paper Box Co., St. Louis, Mo.
A, B and D, g.l.
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
A, B and D, g.l.
Illinois Paper Box Co., Chicago, Ill.
A, C and D, g.l.
Illinois-Star-Schulz Paper Box Co., Chicago, Ill.
Jones Paper Box Co., Jesse, Philadelphia, Pa.
A, B, C and D, g.l.
Kalamazoo Paper Box Co., Kalamazoo, Mich.
A, B, C and D, g.l.

Kentucky Paper Box Co., Inc., Louisville, Ky.
A, B, C and D, g.l.
Keystone Box Co., Pittsburgh, Pa.
A, B, C and D, g.l.
Killian Co., George P., Washington, D. C.
A, B, C and D, g.l.
Klein & Co., A., New York, N. Y.
Candy
Koehl Co., Wm., Cincinnati, O.
A, B, C and D, g.l.
Kroeck Paper Box Co., Chicago, Ill.
A, g.l.
Landowne Co., Inc., J., Brooklyn, N. Y.
D, g.l.
Lebanon Paper Box Co., Lebanon, Pa.—71
A, B, C and g.l., Mitre Cigar Boxes
Lorscheider-Schang Co., Inc., The, Rochester, N. Y. and New York, N. Y.
A, B, C and D, g.l.
Maryland Paper Box Co., Baltimore, Md.
A, B, D, g.l., Holiday, shelf
Mason Box Co., The, Attleboro Falls, Mass.
A, B, C and D, g.l.
Miller, Inc., W. P., Philadelphia, Pa.
A, B, C and D, g.l.
Molitor Box Co., Milwaukee, Wis.
A, B, C and D, g.l.
Mutual Paper Box Co., Chicago Ill.—
Leather and Leatherette, Embossed & Fancy
National Metal Edge Box Co., Philadelphia, Pa.—61
Neumann Co., The Robert, Cincinnati, O.
A, C and D, g.l.
Ohio Boxboard Co., Cleveland, O.
A, B, C and D, g.l.
Paper Package Co., Indianapolis, Ind.
A, B, C and D, g.l.
Parks Co., N. W., New York, N. Y.—101
Pearson Paper Box Co., Kansas City, Mo.
A, C and D, g.l.
Perfumers and Jewelers Box Co., Inc., New York, N. Y.
A, B, C and g.l.
Pharmacy Paper Box Co., Chicago, Ill.
A, B and C
Pictorial Paper Package Co., Aurora, Ill.
A, B, C and D, g.l.
Plumly, E. K., Philadelphia, Pa.
D, g.l., Perfume
Randolph Paper Box Co., Richmond, Va.
A, B and D, g.l.
Rapid Cutting Die Co., Brooklyn, N. Y.
A, B, g.l.
Ritchie & Co., W. C., Chicago, Ill.—55
A, B, C and D, g.l.
Rowell Co., Inc., E. N., Batavia, N. Y.—103
A, B and D, g.l.
Schleicher Paper Box Co., F. J., St. Louis, Mo.
B, C and D, candy
Schoettle Co., Edwin J., Philadelphia, Pa.
A, B, C and D, g.l.
Schultz Co., A. Geo., Milwaukee, Wis.
A, B, C and D, g.l.
Schultz & Co., H., Chicago, Ill.
A, B, C and D, g.l.
Sears Paper Box Co., Merle, Danville, Ill.—69
A, B, C and D, g.l.
Seeley Tube & Box Co., Newark, N. J.
A, B and D, g.l.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 410-411
A, B, C and D, g.l.
Simplex Paper Box Corp., Lancaster, Pa.—81
A, B, C and D, g.l.
Smith Co., The S. K., Chicago, Ill.—75
Leather, Leatherette, Imitation Leather, Embossed and Fancy
Spitzer Paper Box Co., Toledo, O.
A, B
Star Case Co., New York, N. Y.
C, Jewelry, Specialties, Leather
Trum, Inc., E. J., Brooklyn, N. Y.
A and D, g.l.
Voss Corp., Karl, Hoboken, N. J.—105
C, g.l., Face Powder, Perfumery
Waldeck & Co., Jersey City, N. J.
A, B, C and D, g.l.
Warner Bros. Co., The, Bridgeport, Conn.—63
A, B, C and D
Waterbury Paper Box Co., Waterbury, Conn.—109
A, B, C and D, g.l.
Weaver Mfg. Co., Mount Holly, N. J.—113
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Young Bros., Inc., Providence, R. I.
A, B, C and D, g.l.
Youse Co., C. J., Baltimore, Md.
A, B, C and D, candy

BOXES, WINDOW
(Transparent Cellulose)

AAAAAA Ace Paper Box Corp., New York, N. Y.
Atlantic Carton Corp., Norwich, Conn.
Brooks & Porter, Inc., New York, N. Y.—Insert 64-65
Burt Co., Inc., F. N., Buffalo, N. Y.—79
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Carter Co., Wm., Paper Box Division, Needham Heights, Mass.
Celluloid Corp., New York, N. Y.—154
Chippewa Paper Products, Inc., Chicago, Ill.
Container Corp. of America, Chicago, Ill.
Deisroth Co., Inc., W. H., Philadelphia, Pa.—65
Dennison Mfg. Co., Framingham, Mass.—67
Empire Box Corp., Chicago, Ill.
Eureka Paper Box Corp., Chicago, Ill.—115
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Forbes Lithograph Mfg. Co., The, Boston, Mass.—185, 303
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Cleveland Cartons Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
International Folding Paper Box Co., Inc., North Bergen, N. J.
Interstate Folding Box Co., Middletown, O.
Lebanon Paper Box Co., Lebanon, Pa.—71
Michigan Carton Co., Battle Creek, Mich.—87
Milprint Products Corp., Milwaukee, Wis.
Nalco, Inc., New York, N. Y.
National Metal Edge Box Co., Philadelphia, Pa.—61
Parks, Co., N. W., New York, N. Y.—101
Richardson-Taylor-Globe Corp., Cincinnati, O.—97
Ritchie & Co., W. C., Chicago, Ill.—55
Rowell Co., Inc., E. N., Batavia, N. Y.—103
Russell Box Co., Medford, Mass.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 410-411
Stecher-Traung Litho. Corp., Rochester, N. Y.—Insert 258-259
Sutherland Paper Co., Kalamazoo, Mich.
Trenton Folding Box Co., Trenton, N. J.
Voss Corp., Karl, Hoboken, N. J.—105
Warner Bros. Co., The, Bridgeport, Conn.—63
Waterbury Paper Box Co., Waterbury, Conn.—109
Weaver Mfg. Co., Mount Holly, N. J.—113

CADDIES, CRACKER

Chicago Carton Co., Chicago, Ill.
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Dexter Folder Co., New York, N. Y.—441-446
Eddy Paper Corp., The, Three Rivers, Mich.
Empire Box Corp., Chicago, Ill.
Fibreboard Products, Inc., San Francisco, Cal.
Gair, Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Gaylord, Inc., Robert, St. Louis, Mo.
Hinde & Dauch Paper Co., The, Sandusky, Ohio
Hummel & Downing Co., Milwaukee, Wis.
Interstate Folding Box Co., Middletown, O.
Kieckhefer Container Co., Milwaukee, Wis. and Delair, N. J.
Morris Paper Mills, Chicago, Ill.
National Metal Edge Box Co., Philadelphia, Pa.—61
Pulp Products Co., Inc., New York, N. Y.
River Raisin Paper Co., Monroe, Mich.
Rochester Folding Box Co., Rochester, N. Y.
Rockford Fibre Container Co., Rockford, Ill.
Sefton Fibre Can Co., St. Louis, Mo.—207
Traver Corp., Chicago, Ill.

CAN SEALING COMPOUNDS

Dewey & Almy Chemical Co., Cambridge, Mass.—247
Graeme Harrison Products, Inc., New York, N. Y.

CANS, FIBRE
(Paper and Tin Ends)

American Can Company, New York, N. Y.
Boothby Fibre Can Co., Boston, Mass.
Cambridge Paper Box Co., Cambridge, Mass.
Canister Co., The, Phillipsburg, N. J.
Chicago Paper Tube & Can Co., Chicago, Ill.
Cin-Made Corp., Cincinnati, O.
Cleveland Container Co., Cleveland, O.—215
Container Corp. of America, Chicago, Ill.
Cross Paper Products Corp., New York, N. Y.
Fibreboard Products, Inc., San Francisco, Cal.
Fonda Container Co., Inc., Utica, N. Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
Heekin Can Co., The, Cincinnati, O.
Indianapolis Paper Container Co., Indianapolis, Ind.
Lily Tulip Cup Corp., New York, N. Y.
Marathon Paper Mills Co., Rothschild, Wis.
Menasha Products Co., The, Menasha, Wis.
Molitor Box Co., Milwaukee, Wis.
Morris Paper Mills, Chicago, Ill.
National Paper Can Co., Milwaukee, Wis.
Paper Canister Co., Philadelphia, Pa.
Pulp Products Co., Inc., New York, N. Y.
R. C. Can Company, St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Rowell & Co., Inc., E. N., Batavia, N. Y.—103
Russell Box Co., Medford, Mass.
Sealright Co., Inc., Fulton, N. Y.
Seeley Tube & Box Co., Newark, N. J.
Sefton Fibre Can Co., St. Louis, Mo.—207
Stanwood Paper Tube & Can Corp., North Bergen, N. J.
Sutherland Paper Co., Kalamazoo, Mich.
Universal Container Co., Rochester, N. Y.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

CANS, TIN
(Beer and Wine)

American Can Co., Inc., New York, N. Y.
Continental Can Co., Inc., New York, N. Y.—Insert 200-201

Crown Cork & Seal Co., Baltimore, Md.—239
Heekin Can Co., The, Cincinnati, O.
National Can Co., Inc., New York, N. Y.—193

CANS, TIN
(Plain and Decorated)

Acme Can Co., Philadelphia, Pa.
American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Burdick & Son, Inc., Albany, N. Y.—213
Clark Co., Inc., Geo. V., Long Island City, N. Y.
Clark, Mfg. Co., J. L., Rockford, Ill.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Continental Can Co., Inc., New York, N. Y.—Insert 200-201
Crown Cork & Seal Co., Baltimore, Md.—239
Federal Tin Co., Baltimore, Md.
Heekin Can Co., The, Cincinnati, O.
Metal Litho. Corp., Brooklyn, N. Y.—217
National Can Co., Inc., New York, N. Y.—193
Owens-Illinois Can Co., Toledo, O.—198-199
Phoenix Metal Cap Co., Chicago, Ill., and Brooklyn, N. Y.
Robertson Steel & Iron Co., W. F., Springfield, O.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

CANS, TRANSPARENT
(Cellulose and Celluloid)

Celluloid Corp., New York, N. Y.—154
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
R. C. Can Co., St. Louis, Mo.—219
See-Thru Container Corp., Long Island City, N. Y.—119

CAP SEALING COMPOUNDS

Dewey & Almy Chemical Co., Cambridge, Mass.—247
Graeme Harrison Products, Inc., New York, N. Y.

CAPS
(Aluminum, Brass, Tin)

Acme Metal Cap & Closure Co., Inc., Brooklyn, N. Y.
Aluminum Co. of America, Pittsburgh, Pa.—209
Aluminum Seal Co., New Kensington, Pa.—209
American Aluminum Ware Co., Newark, N. J.
American Star Cork Co., Inc., Brooklyn, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Aridor Co., The Chicago, Ill.—252
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Art Tube Co., Irvington, N. J.
Brass Goods Mfg. Co., Brooklyn, N. Y.
Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass Copper Co., Inc., Waterbury, Conn.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Crown Cork & Seal Co., Baltimore, Md.—239
Empire Metal Cap Co., Brooklyn, N. Y.
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Kep-Ark, Inc., Boston, Mass.
Majestic Metal Specialties, Inc., New York, N. Y.
National Metal Cap Co., Brooklyn, N. Y.
National Seal Company, Inc., Brooklyn, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Phoenix Metal Cap Co., Chicago, Ill.
Reynolds Metals Co., Inc., New York, and Brooklyn, N. Y.—Insert 156-157
Scovill Mfg. Co., Waterbury, Conn.
Thorn Tite Tops, Inc., New York, N. Y.—255
White Cap Co., Chicago, Ill.
Williams Sealing Corp., Decatur, Ill.
Wirz, Inc., A. H., Chester, Pa.—190
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

CAPS, BOTTLE, CELLULOSE

Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Celon Co., Madison, Wis.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
National Seal Co., Inc., Brooklyn, N. Y.
Parke-Davis Co., Detroit, Mich.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Sillcocks-Miller Co., The, South Orange, N. J.
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241

CAPS, CAPTIVE
(For Bottles, Tubes, Cans)

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Bond-Penn Tube Co., Wilmington, Del.—205
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Thorn Tite Tops, Inc., New York, N. Y.—255

CAPS, CROWN

Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Bond-Penn Tube Co., Wilmington, Del.—205
Consolidated Cork Corp., Brooklyn, N. Y.
Crown Cork & Seal Co., Baltimore, Md.—239
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
Illinois Cork Co., Chicago, Ill.
Mundet Cork Corp., Brooklyn, N. Y.—251
White Cap Co., Chicago, Ill.

CAPS, METAL VACUUM

Aluminum Seal Co., New Kensington, Pa.—209
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Aridor Co., The, Chicago, Ill.—252
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Crown Cork & Seal Co., Baltimore, Md.—239
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
White Cap Co., Chicago, Ill.

CAPS, MOLDED PLASTIC

American Insulator Corp., New Freedom, Pa.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Auburn Button Works, Inc., Auburn, N. Y.—283
Bakelite Corp., New York, N. Y.—287
Boonton Molding Co., Boonton, N. J.—281
Chicago Molded Products Corp., Chicago, Ill.—289
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Consolidated Molded Products Corp., New York, N. Y. and Scranton, Pa.
Dodge Cork Co., Lancaster, Pa.—227
Durite Plastics, Philadelphia, Pa.
General Electric Co., Plastics Dept., Bridgeport, Conn.—Insert 272-273
General Industries Co., The, Elyria, O.
General Plastics, Inc., North Tonawanda, N. Y.—291
Kurz-Kasch Co., The, Dayton, O.—Insert 288-289
Mack Molding Co., Inc., Wayne, N. J.—293
Mundet Cork Corp., Brooklyn, N. Y.—251
Northern Industrial Chemical Co., So. Boston, Mass.
Norton Laboratories, Inc., Lockport, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Plaskon Co., Inc., Toledo, O.
Reilly Tar & Chemical Corp., Indianapolis, Ind.—277
Resinox Corp., New York, N. Y.—278-279
Reynolds Spring Co., Jackson, Mich.
Synthetic Plastics, Inc., New York, N. Y.
Tech-Art Plastics Co., Long Island City, N. Y.
Terkelsen Machine Co., Boston, Mass.
Victor Metal Products Corp., Brooklyn, N. Y.—249
Waterbury Button Co., The, Waterbury, Conn.—285
Wheeling Stamping Co., Wheeling, W. Va.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

CAPS, PAPER

American Seal-Kap Corp., Long Island City, N. Y.—235
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Cambridge Paper Box Co., Cambridge, Mass.
Cleveland Container Co., The, Cleveland, O.—215
Cross Paper Products Corp., New York, N. Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
Indianapolis Paper Container Co., Indianapolis, Ind.
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Sealright Co., Inc., Fulton, N. Y.
Sefton Fibre Can Co., St. Louis, Mo.—207

CAPSULES
(Cellulose and Celluloid)

Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91

CAPSULES AND TUBES
(Metal)

Bond-Penn Tube Co., Wilmington, Del.—205

Standard Specialty & Tube Co., New Brighton, Pa.—211
Sun Tube Corp., Hillside, N. J.—201

CARDBOARD (Clay-Coated)

American Coating Mills, Inc., Carton Division, Elkhart, Ind.—72-73
Falulah Paper Company, New York, N. Y.
Lowe Paper Co., Ridgefield, N. J.—Insert 80-81

CARTON LINERS (For Folding Boxes)

Bennington Wax Paper Co., Bennington, Vt.—167
Central Waxed Paper Co., Chicago, Ill.
Continental Bag Specialties Corp., New York, N. Y.
Continental Color Corp., Cleveland, O.—435
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Ferguson Co., J. L., Joliet, Ill.—397
Hamersley Mfg. Co., Garfield, N. J.
Hartford City Paper Co., Inc., Hartford City, Ind.
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Henle Wax Paper Mfg. Co., Inc., The, New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Kimberly-Clark Corp., Neenah, Wis.—454-455
Marathon Paper Mills, Rothschild, Wis.
Menasha Products Co., The, Menasha, Wis.
Nashua Gummed & Coated Paper Co., Nashau, N. H.—Insert 162-163
Newark Paraffine & Parchment Paper Co., Newark, N. J.
Oneida Paper Products, Inc., New York, N. Y.
Owens-Illinois Glass Co., Toledo, O.—242-245
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Sutherland Paper Co., Kalamazoo, Mich.
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
Traver Corp., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
West Carrollton Parchment Co., West Carrollton, O.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165

CARTONS

See Boxes, Folding and Display Cartons

CARTONS, PARAFFINED

Atlantic Carton Corp., Norwich, Conn.
Bloomer Bros. Co., Newark, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brown & Bailey Co., Philadelphia, Pa.
Butler Paper Products Co., Toledo, O.
Campbell Box & Tag Co., South Bend, Ind.
Chicago Carton Co., Chicago, Ill.
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Eddy Paper Corp., The, Three Rivers, Mich.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Cleveland Cartons, Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Gereke-Allen Co., St. Louis, Mo.
Hummel & Downing Co., Milwaukee, Wis.
Kieckhefer Container Co., Milwaukee, Wis. and Delair, N. J.
Menasha Products Co., The, Menasha, Wis.
Michigan Carton Co., Battle Creek, Mich.—87
Morris Paper Mills, Chicago, Ill.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Richardson-Taylor-Globe Corp., Cincinnati, O.—97
Rockford Fibre Container Co., Rockford, Ill.
Russell Box Co., Medford, Mass.
Shuttleworth Carton Co., Inc., New York, N. Y.
Sutherland Paper Co., Kalamazoo, Mich.
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., The, Bridgeport, Conn.—63
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

CASE LINERS

See Liners (Box, Barrel and Bag)

CASES, DISPLAY (Molded Plastics)

See Molders, Custom

CASES, DISPLAY WOOD

Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Nalco, Inc., New York, N. Y.
Parks Co., N. W., New York, N. Y.—101
Peterson Bros., Chicago, Ill.—111
Pilliod Cabinet Co., The, Swanton, O.—59
Rueckert Mfg. Co., Providence, R. I.—93
Weaver Mfg. Co., Mount Holly, N. J.—113

CASES, MAILING FIBRE

Cambridge Paper Box Co., Cambridge, Mass.
Cin-Made Corp., Cincinnati, O.
Cleveland Container Co., Cleveland, O.—215
Cross Paper Products Corp., New York, N. Y.
Gates Paper Co., Ltd.. Los Angeles, Cal.
Mason Box Co., The, Attleboro Falls, Mass.
National Metal Edge Box Co., Philadelphia, Pa.—61
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Rowell Co., Inc., E. N., Batavia, N. Y.—103
Sefton Fibre Can Co., St. Louis, Mo.—207

CASES, SAMPLE

Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Arrow Mfg. Co., Hoboken, N. J.—83
Bridgeport Bag & Jewelry Case Co., Bridgeport, Conn.
Buedingen Co., Inc., Ferdinand, Rochester, N. Y.—107
Buedingen & Son, Wm., Rochester, N. Y.—89
Cambridge Paper Box Co., Cambridge, Mass.
Dennison Mfg. Co., Framingham, Mass.—67
Eureka Paper Box Corp., Chicago, Ill.—115
Farrington Mfg. Co., Boston, Mass.
Mason Box Co., Attleboro Falls, Mass.
Mutual Paper Box Co., Chicago, Ill.
Mele Mfg. Co., Inc., New York, N. Y.
Nalco, Inc., New York, N. Y.
National Metal Edge Box Co., Philadelphia, Pa.—61
Parks Co., N. W., New York, N. Y.—101
Pilliod Cabinet Co., Swanton, O.—59
Ritchie & Co., W. C., Chicago, Ill.—55
Rueckert Mfg. Co., Providence, R. I.—93
Smith Co., The, S. K., Chicago, Ill.—75
Star Case Co., New York, N. Y.
Voss Corp., Karl, Hoboken, N. J.—105
Warner Bros. Co., The, Bridgeport, Conn.—63
Weaver Mfg. Co., Mount Holly, N. J.—113

CELLOPHANE

Du Pont de Nemours & Co., Inc., E. I., Cellophane Division, Wilmington, Del. "Dupont Cellophane"
Sylvania Industrial Corp., New York, N. Y. (Sylvania Cellophane) "Sylphrap"—Insert 170-171 and 240-241

CELLULOID

Auburn Button Works, Inc., Auburn, N. Y.—283
Celluloid Corp., New York, N. Y.—154
Fiberloid Corp., The, Indian Orchard, Mass.

CELLULOSE, SHREDDED

Bennington Wax Paper Co., Bennington, Vt.—167
Brooks Paper Co., St. Louis, Mo.
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Hy-Sil Mfg. Co., Revere, Mass.
Pioneer Paper Stock Co., Chicago, Ill.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
Traver Corp., Chicago, Ill.

CELLULOSE, TRANSPARENT (Converters, Fabricators and Printers)

Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Caton Printing Co., Kansas City, Mo.
Daniels Mfg. Co., Rhinelander, Wis.
Dennison Mfg. Co., Framingham, Mass.—67
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Emeloid Co., Inc., Arlington, N. J.—121
Fibre Cord Co., Inc., New York, N. Y.—171
Food Packaging, Inc., Milwaukee, Wis.
Forbes Lithograph Mfg. Co., The, Boston, Mass.—185, 303
Freydberg Bros., Inc., New York, N. Y.—159
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hy-Sil Mfg. Co., Revere, Mass.
Liebs Co., Inc., L. A., New York, N. Y.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Milprint Products Corp., Philadelphia, Pa.
Munson Bag Co., The, Cleveland, O.—131
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Print-A-Tube Co., Passaic, N. J.
Royal & Co., Thomas M., Philadelphia, Pa.—126-127
See-Thru Container Corp., Long Island City, N. Y.—119
Shellmar Products Co., Chicago, Ill.
Traver Corp., Chicago, Ill.

Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—133
Welsh Paper Co., Philadelphia, Pa.

CELLULOSE, TRANSPARENT (Moisture and Grease-proof)

American Products Mfg. Co., New Orleans, La.
Celluloid Corp., New York, N. Y.—154
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Eastman Kodak Co., Rochester, N. Y.
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241

CHIPBOARD

Butterfield-Barry Co., New York, N. Y.—157
Chippewa Paper Products, Inc., Chicago, Ill.
Continental Color Corp., Cleveland, O.—435
Consolidated Paper Co., Monroe, Mich.—451
Container Corp. of America, Chicago, Ill.
Eddy Paper Corp., The, Three Rivers, Mich.
Federal Paper Board Co., Inc., Bogota, N. J.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Hinde & Dauch Paper Co., The, Sandusky, O.
Kieckhefer Container Co., Milwaukee, Wis., and Delair, N. J.
National Folding Box Co., New Haven, Conn.
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
River Raisin Paper Co., Monroe, Mich.
Rockford Fibre Container Co., Rockford, Ill.
Schmidt & Ault Paper Co., York, Pa.
United Paperboard Co., New York, N. Y.

CLOTH, LACQUERED

Athol Mfg. Co., Athol, Mass.
Bakelite Corp., New York, N. Y.—287
Dejonge & Co., Louis, New York, N. Y.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Holliston Mills, Inc., The, Norwood, Mass.—175
Keratol Co., Newark, N. J.
Peerless Roll Leaf Co., Union City, N. J.
Permatex Fabrics, Inc., Jewett City, Conn.
Pyrotex Leather Co., Leominster, Mass.
Revolite Corp., New Brunswick, N. J.
Roxalin Flexible Lacquer Co., Elizabeth, N. J.
Standard Textile Products Co., New York, N. Y.
Textileather Corp., Toledo, O.
United States Rubber Products, Inc., New York, N. Y.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
Whiting Co., Inc., C. R., Hackensack, N. J.—Insert 150-151
Zapon Co., Hartford, Conn.

COLLAPSIBLE TUBES

See Tubes, Collapsible (Aluminum, Lead, Tin & Alloys)

COMPACTS, FANCY METAL

Brass Goods Mfg. Co., Brooklyn, N. Y.
Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Goertz Co., Inc., August, Newark, N. J.
Kolmar Laboratories, Newark, N. J.
Majestic Metal Specialties, Inc., New York, N. Y.
Sagamor Metal Goods Corp., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.

CONTAINERS, LEATHERETTE (Embossed Imitation Leather)

See Boxes, Imitation Leather
See Boxes, Fancy Leatherette

CONTAINERS, MOLDED

See Boxes, Molded (Plastic)

CONTAINERS, MOLDED PULP (Bottles, Jars, etc.)

Hole-Tite Packing Corp., New York, N. Y.
Keyes Fibre Co., Inc., Waterville, Me.
National Folding Box Co., New Haven, Conn.
Owens-Illinois Glass Co., Toledo, O.—242-245
Pulp Products Co., Inc., New York, N. Y.

CONTAINERS, PAPER (Nesting, Waxed and Unwaxed)

American Paper Goods Co., Kensington, Conn.—125
Boothby Fibre Can Co., Boston, Mass.
Individual Drinking Cup Co., Easton, Pa.
Lily Tulip Cup Corp., New York, N. Y.
Menasha Products Co., The, Menasha, Wis.
Mono Service Co., Newark, N. J.
National Metal Edge Box Co., Philadelphia, Pa.—61
R. C. Can Co., St. Louis, Mo.—219
Russell Box Co., Medford, Mass.
Sealright Co., Inc., Fulton, N. Y.
Sutherland Paper Co., Kalamazoo, Mich.

CONTAINERS, SULPHITE (Cylindrical and Nesting)

Boothby Fibre Can Co., Boston, Mass.
Fibreboard Products, Inc., San Francisco, Cal.
Individual Drinking Cup Co., Easton, Pa.
Lily Tulip Cup Corp., New York, N. Y.
Menasha Products Co., The, Menasha, Wis.
Mono Service Co., Newark, N. J.
Purity Paper Vessels Co., The, Baltimore, Md.
Ritchie & Co., W. C., Chicago, Ill.—55
Sealright Co., Inc., Fulton, N. Y.
Sutherland Paper Co., Kalamazoo, Mich.

CONTAINERS, TRANSPARENT (Cellulose and Celluloid)

Celluloid Corp., New York, N. Y.—154
Emeloid Co., Inc., Arlington, N. J.—121
Fiberloid Corp., The, Indian Orchard, Mass.
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
See-Thru Container Corp., Long Island City, N. Y.—119
Sillcocks-Miller Co., The, South Orange, N. J.

CONVEYORS (Belt and Roller)

Acme Steel Co., Chicago, Ill. (steel)—431
Alvey-Ferguson Co., Cincinnati, O.
Cambridge Wire Cloth Co., The, Cambridge, Md.
Chain Belt Co., Milwaukee, Wis.
Colton Co., Arthur, Detroit, Mich.—395
Dodge Mfg. Co., Mishawaka, Ind.
Elgin Mfg. Co., Elgin, Ill.
Gifford-Wood Co., Hudson, N. Y.
Horix Mfg. Co., Pittsburgh, Pa.—375
Jeffrey Mfg. Co., Columbus, O.
Kiefer Machine Co., Karl, Cincinnati, O.
Lamson Co., Syracuse, N. Y.
Link-Belt Co., Chicago, Ill.
Logan Co., Louisville, Ky.
Mathews Conveyor Co., Ellwood City, Pa.
National Packaging Machinery Co., Newtonville, Mass.
Ross Engineering Corp., J. O., New York, N. Y.
Standard Conveyor Co., No. St. Paul, Minn.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Toledo Scale Co., Toledo, O.
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Machinery Co., Inc., Newtonville, Mass.—338-339
U. S. Bottlers Machinery Co., Chicago, Ill.—341

CORD, CELLULOSE TWINE

Fibre Cord Co., Inc., New York, N. Y.—171
Franke Sons Co., The, Baltimore, Md.
Hy-Sil Mfg. Co., Revere, Mass.
Safeway Products Corp., New York, N. Y.
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241

CORK PAPER

Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Dodge Cork Co., Inc., Lancaster, Pa.—227
Mundet Cork Corp., Brooklyn, N. Y.—251

CORKS

American Cork Co., Boston, Mass.
American Star Cork Co., Inc., Brooklyn, N. Y.
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Cork Import Corp., New York, N. Y.
Dodge Cork Co., Inc., Lancaster, Pa.—227
International Cork Co., Brooklyn, N. Y.
Mundet Cork Corp., Brooklyn, N. Y.—251
Truslow & Fulle, Brooklyn, N. Y.

CORKS, ALUMINUM TOP

American Aluminum Ware Co., Newark, N. J.
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Consolidated Fruit Jar Co., New Brunswick, N. J.
Dodge Cork Co., Inc., Lancaster, Pa.—227
Mundet Cork Corp., Brooklyn, N. Y.—251

CORKS, MOLDED TOPS

Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Bakelite Corp., New York, N. Y.—287

Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Dodge Cork Co., Inc., Lancaster, Pa.—227
General Plastics, Inc., North Tonawanda, N. Y.—291
Mack Molding Co., Inc., Wayne, N. J.—293
Mundet Cork Corp., Brooklyn, N. Y.—251
Plaskon Co., Inc., Toledo, O.
Waterbury Button Co., The, Waterbury, Conn.—285

CORKS, WOOD TOP

Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Dodge Cork Co., Inc., Lancaster, Pa.—227

COUNTER DISPLAY

See Boxes, Folding and Display Cartons
See Display Fixtures, Metal
See Displays, Counter
See Molders, Custom
See Boxes, Paper Set-Up
See Lithographers

COVER SEALING COMPOUNDS

Dewey & Almy Chemical Co., Cambridge, Mass.—247
Graeme Harrison Products, Inc., New York, N. Y.

CREPE WADDING

Kimberly-Clark Corp., Neenah, Wis.—454-455
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Traver Corp., Chicago, Ill.

CUSTOM PACKAGING

Allied Products, Inc., New York, N. Y.
Toilet preparations
Arcadia Food Co., New York, N. Y.
Jelly powders, dessert powders
Arner Co., Buffalo, N. Y.
Pills and tablets
Brown Bag Filling Machine Co., Fitchburg, Mass.—365
Pills, tablets, powdered materials, nails, screws, etc., in open end envelopes
Buckeye Soda Co., The, Painesville, O.
Powder and/or granular products; either folding cartons or cans
Canada's Pride Products Co., Inc., New York, N. Y.
Cocoa and malted milk products
Comfort Mfg. Co., Chicago, Ill.
Every type of package, either dry, wet, semi-sold, solid, etc.
Fergusson Laboratories, Philadelphia, Pa.
Creams, tooth pastes, etc., in collapsible tubes
Ivers-Lee Co., Newark, N. J.—129, 367
Tablets, pills and capsules
Jamieson Co., C. E., Detroit, Mich.
Creams, tooth paste, etc., pills, tablets and fillers of collapsible tubes
Morrison Co., The, Philadelphia, Pa.
Equipped for packing in family and institutional sizes puddings, pie-fillings and ice cream powders
Strong, Cobb & Co., Cleveland, O.
Pills, tablets, creams, tooth paste, etc., and fillers of collapsible tubes

DECALCOMANIA

American Decalcomania Co., Chicago, Ill.
Consolidated Lithographing Corp., Brooklyn, N. Y.
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
Meyercord Co., Chicago, Ill.
Palm, Fechteler & Co., New York, N. Y.—267
Pyrotex Leather Co., Leominster, Mass.
Traver Corp., Chicago, Ill.
United States Printing & Lithograph Co., The, American Lithographic Division of, New York, N. Y.—Insert 268-269 and 304-305

DIE CUTTING

Cambridge Paper Box Co., Cambridge, Mass.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Campbell Box & Tag Co., South Bend, Ind.
Chambon Corp., Garfield, N. J.—425
Dennison Mfg. Co., Framingham, Mass.—67
Foxon Co., Providence, R. I.—Insert 266-267
French-Bray Printing Co., Baltimore, Md.
Krause, Inc., Richard M., New York, N. Y.—Insert 270-271
Liebs Co., Inc., L. A., New York, N. Y.
May Co., J. L., New York, N. Y.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., Dayton, O.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Tablet & Ticket Co., The, Chicago, Ill.—263
Traver Corp., Chicago, Ill.
U. S. Printing & Lithograph Co., The, Cincinnati, O. and New York, N. Y.—Insert 268-269 and 304-305
Wynekoop, Walker, Chicago, Ill.

DISPLAY CABINETS (Small, Wood)

Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Nalco, Inc., New York, N. Y.
Parks Co., N. W., New York, N. Y.—101
Peterson Bros., Chicago, Ill.—111
Pilliod Cabinet Co., Inc., Swanton, O.—59
Rueckert Mfg. Co., Providence, R. I.—93
Star Case Co., New York, N. Y.

DISPLAY FIXTURES, METAL (Counter, Floor and Window)

Advertising Metal Display Co., Chicago, Ill.
American Can Co., New York, N. Y.
Central Wire & Frame Co., New York, N. Y.
City Wire Frame Co., Chicago, Ill.
Darling Co., L. A., Bronson, Mich.
Kerr Wire Products Co., Chicago, Ill.
Nelke Sign Mfg. Co., Inc., New York, N. Y.
Owens-Illinois Can Co., Toledo, O.—198-199
Union Steel Products Co., Albion, Mich.
United Steel & Wire Co., Inc., Battle Creek, Mich.
Washburn Co., The, Worchester, Mass. and Rockford, Ill.—315

DISPLAY, WINDOW AND COUNTER

See Molders, Custom
See Lithographers
See Boxes, Folding and Display Cartons
See Boxes, Paper Set-Up

DISPLAYS, COUNTER (of Glass and Wood)

Aman & Sandmann Box & Lumber Co., Cincinnati, O.
Arrow Mfg. Co., Inc., Hoboken, N. J.—83
Glass Display, Inc., New York, N. Y.
Kay Displays, Inc., New York, N. Y.
Nalco, Inc., New York, N. Y.
Pilliod Cabinet Co., The, Swanton, O.—59
Rueckert Mfg. Co., Providence, R. I.—93
United Displays, Cleveland, O.—311
United States Printing & Lithograph Co., The, Cincinnati, O. and New York, N. Y., Insert 268-269, 304-305

DISPLAYS, FLOOR STAND (Corrugated & Solid Fibre)

Albany Corrugated Container Corp., Albany, N. Y.
Eddy Paper Corp., The, Three Rivers, Mich.
Gair Cleveland Cartons, Inc., Cleveland, O.—95
Gair Co., Inc., Robert, New York, N. Y.—306
Hinde & Dauch Paper Co., Sandusky, O.
Kieckhefer Container Co., Milwaukee, Wis. and Delair, N. J.
Ottawa River Paper Co., Toledo, O.—313
River Raisin Paper Co., Monroe, Mich.
Rockford Fibre Container Co., Rockford, Ill.
Schmidt Lithograph Co., San Francisco, Cal.

DISPLAYS, FLOOR STAND (Lithographed)

See Lithographers

DROPPERS, BOTTLE

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.

DROPPERS, MEDICINAL (Cellulose and Celluloid)

Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91

DRUMS, FIBRE

American Can Co., New York, N. Y.
Arvey Mfg. Co., Chicago, Ill.
Carpenter Container Corp., Brooklyn, N. Y.
Champion Container Co., Philadelphia, Pa.
Cleveland Container Co., Cleveland, O.—215
Container Co., The, Van Wert, O.
Emery Carpenter Container Co., Chicago, Ill.
Gardner-Richardson Co., Middletown, O.—76-77
Knowlton Co., M. D., Rochester, N. Y.—371
Master Package Corp., Owen, Wis.
Morris Paper Mills, Chicago, Ill.
National Folding Box Co., New Haven, Conn.
Philadelphia Carpenter Container Co., Inc., Philadelphia, Pa.

EMBOSSING ROLLS (Paper)

Dornbusch Agency, Inc., The New York, N. Y.—343
L. C. Machinery Co., Inc., New York, N. Y.—417

Marconetti, Inc., A. E., New York, N. Y.—414-415
Waldron Corp., John, New Brunswick, N. J.—423
Williams & Co., Inc., Chas. W., New York, N. Y.

ENVELOPES

American Paper Goods Co., Kensington, Conn.—125
Andrews Corp., P. L., Brooklyn, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brown Bag Filling Machine Co., The, Fitchburg, Mass.—365
Cupples-Hesse Envelope & Litho. Co., St. Louis, Mo.—139
Dennison Mfg. Co., Framingham, Mass.—69
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Equitable Paper Bag Co., Inc., Brooklyn, N. Y.—137
Forbes Lithograph Mfg. Co., The, Boston, Mass.—185, 303
Michigan Lithographing Co., Grand Rapids, Mich.
Milprint Products Corp., Milwaukee, Wis.
Munson Bag Co., The, Cleveland, O.—131
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Royal & Co., Thomas M., Philadelphia, Pa.—126-127
Shellmar Products Co., Chicago, Ill.
Stecher-Traung Lithograph Corp., Rochester, N. Y.—Insert 258-259
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—133
United States Printing & Lithograph Co., The, American Lithographic Division, Cincinnati, O. and New York, N. Y.—Insert 268-269 and 304-305

EXCELSIOR PADS

Boston Excelsior Co., New York, N. Y.
Excelsior Wrapper Co., Chicago, Ill.
Jiffy Pad & Excelsior Co., New York, N. Y.
Pioneer Paper Stock Co., Chicago, Ill.
Quincy North Star Co., Quincy, Ill.
Selle & Co., H. W., Chicago, Ill.

EXCELSIOR PAPER

Bennington Wax Paper Co., Bennington, Vt.—167
Crystal Tissue Co., The, Middletown, O.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Traver Corp., Chicago, Ill.

FOIL, METAL (Aluminum, Tin, Lead, etc.)

Aldine Paper Co., New York, N. Y.
Aluminum Co. of America, Pittsburgh, Pa. (aluminum only)—209
American Foil Corp., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge - Marvellum Co., Holyoke, Mass.—Insert 154-155
Foil Products Corp., New York, N. Y.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
Miller, Inc., Bert C., New York, N. Y.
Milprint Products Co., Milwaukee, Wis.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pauli Corp., Karl, New York, N. Y.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Standard Rolling Mills, Inc., Brooklyn, N. Y.
Steffens, Jones & Co., Inc., New York, N. Y.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151

FOLDING BOXES

See Boxes, Folding and Display Cartons

GLASS, COLORED

Capstan Glass Co., Connellsville, Pa.—236-237
Dura-Colors, Inc., Cleveland, O.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Salem Glass Works, Salem, N. J.—236-237

GLASS, ROD AND TUBING

Corning Glass Co., Corning, N. Y.
Kimble Glass Co., Vineland, N. J.—233

GLASSES, MEDICINAL

Federal Glass Co., Columbus, O.—231
Hazel-Atlas Glass Co., Wheeling, W. Va.
Kimble Glass Co., Vineland, N. J.—233
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.

GLUES AND PASTES

See Adhesives

GOLD LEAF

See Roll Leaf

GUMMED TAPE, CLOTH

Artcote Papers, Inc., Irvington, N. J.
Central Paper Co., Menasha, Wis.
Chicago Gummed Tape Co., Chicago, Ill.
Chippewa Paper Products, Inc., Chicago, Ill.
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Gair Co., Inc., Robert, New York, N. Y.—306
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Gummed Products Co., The, Troy, O.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Holliston Mills, Inc., Norwood, Mass.—175
Holyoke Coated & Printed Paper Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
May Co., J. L., New York, N. Y.
Mid-States Gummed Paper Co., Chicago, Ill.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Queen City Paper Co., Cincinnati, O.
Rexford Paper Co., Milwaukee, Wis.
Reyburn Mfg. Co., The, Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J.—Insert 150-151

GUMMED TAPE (For Transparent Cellulose)

Dennison Mfg. Co., Framingham, Mass.—67
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Graeme Harrison Products, Inc., New York, N. Y.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Hy-Sil Mfg. Co., Revere, Mass.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Reyburn Mfg. Co., The, Philadelphia, Pa.

GUMMED TAPE (Plain, Printed, Colored)

Better Packages, Shelton, Conn.
Central Paper Co., Menasha, Wis.
Chicago Gummed Tape Co., Chicago, Ill.
Chippewa Paper Products, Inc., Chicago, Ill.
Crowell Corp., The, Yorklyn, Del.
Dennison Mfg. Co., Framingham, Mass.—67
Edgewater Paper Co., Menasha, Wis.
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Gair Co., Inc., Robert, New York, N. Y.—306
Gummed Products Co., The, Troy, O.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Knowlton Co., M. D., Rochester, N. Y.—371
Lambooy Label & Wrapper Co., Kalamazoo, Mich.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Matthias Paper Corp., Philadelphia, Pa.
Metal Specialties Co., Chicago, Ill.
Mid-States Gummed Paper Co., Chicago, Ill.
Mosinee Paper Mills Co., Mosinee, Wis.—179
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Rexford Paper Co., Milwaukee, Wis.
Shuman Co., Frank G., Chicago, Ill.
Standard Paper Co., Bellows Falls, Vt.
Tanglefoot Co., Grand Rapids, Mich.
Union Gummed Products Co., Brooklyn, N. Y.
Wortendyke Mfg. Co., Richmond, Va.

HANDLES AND KNOBS (Molded Plastic)

See Molders, Custom

INK, LITHOGRAPHING AND PRINTING

Capitol Printing Ink Co., Inc., Washington, D. C.
Continental Color Corp., Cleveland, O.—435

Coffee & Co., J. E., Union City, N. J.
Cray-Finne Co., Inc., New York, N. Y.
Crescent Ink & Color Co. of Pa., Philadelphia, Pa.
Davids Ink Co., Thaddeus, New York, N. Y.
Eagle Printing Ink Co., New York, N. Y.
Fuchs & Lang Mfg. Co., New York, N. Y.
General Printing Ink Corp., New York, N. Y.
Huber, Inc., J. M., New York, N. Y.
International Printing Ink Corp., New York, N. Y.
Johnson, Inc., C. Eneu, Philadelphia, Pa.
Levey Co., Inc., Frederick H., New York, N. Y.—Insert facing 409
Morrill Co., Geo. H., Division of General Printing Ink Corp., New York, N. Y.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Sinclair & Carroll Co., Inc., New York, N. Y.
Sinclair & Valentine, New York, N. Y.
Standard Printing Ink Color Co., Inc., Brooklyn, N. Y.
Sun Chemical & Color Co., New York, N. Y.
Triangle Ink & Color Co., Brooklyn, N. Y.
Ullman Co., Sigmund, New York, N. Y.
Wood, Nathan & Virkus Co., Inc., New York, N. Y. (special lustre glass and metallic inks)—Insert 424-425

INK, PRINTING (For Glassine, Transparent Cellulose)

Capitol Printing Ink Co., Inc., Washington, D. C.
Cray-Finne Co., Inc., New York, N. Y.
Crescent Ink & Color Co. of Pa., Philadelphia, Pa.
Eagle Printing Ink Co., New York, N. Y.
Fuchs & Lang Mfg. Co., Division of General Printing Ink Corp., New York, N. Y.
General Printing Ink Corp., New York, N. Y.
Huber, Inc., J. M., New York, N. Y.
International Printing Ink Corp., New York, N. Y.
Johnson, Inc., C. Eneu, Philadelphia, Pa.
Levey Co., Inc., Frederick H., New York, N. Y.—Insert facing 409
Morrill Co., Geo. H., Division of General Printing Ink Corp., New York, N. Y.
Sinclair & Carroll Co., Inc., New York, N. Y.
Sinclair & Valentine, New York, N. Y.
Sun Chemical & Color Corp., New York, N. Y.
Triangle Ink & Color Co., Inc., Brooklyn, N. Y.
Ullman Co., Sigmund, New York, N. Y.

INSERTS, PACKAGE

See Lithographers

JAR COVERINGS

See Caps, (various headings)

JARS, CELLULOSE AND CELLULOID

Celluloid Corp., New York, N. Y.—154
Emeloid Co., Inc., Arlington, N. J.—121
Fiberloid Corp., The, Indian Orchard, Mass.
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
See-Thru Container Corp., New York, N. Y.—119

JARS, COLORED GLASS

Capstan Glass Co., Connellsville, Pa.—236-237
Dura-Colors, Inc., Cleveland, O.
Maryland Glass Corp., Baltimore, Md.—225
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Salem Glass Works, Salem, N. J.—236-237

JARS, GLASS (Packers' Tumblers)

Ball Bros. Co., Muncie, Ind.
Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—236-237
Fairmount Glass Works, Inc., Indianapolis, Ind.
Federal Glass Co., Columbus, O.—231
General Glass Co., Lancaster, O.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Hocking Glass Co., Lancaster, O.
Libbey Glass Mfg. Co., Toledo, O.
Owens-Illinois Glass Co., Toledo, O.—242-245
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Salem Glass Works, Salem, N. J.—236-237
Tygart Valley Glass Co., Washington, Pa.

JARS, METAL

Aluminum Co. of America, Pittsburgh, Pa.—209
American Aluminum Ware Co., Newark, N. J.

JARS, MOLDED

See Molders, Custom

JARS, OPAL

Brockway Glass Co., Inc., Brockway, Pa.
Carr-Lowrey Glass Co., Baltimore, Md.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Owens-Illinois Glass Co., Toledo, O.—242-245
Ruth Glass Co., New York, N. Y.
Wheaton, T. C., Millville, N. J.
Whitall-Tatum Co., Millville, N. J.

JARS, STONEWARE

Buckeye Pottery Co., Macomb, Ill.
Red Wing Union Stoneware Co., Red Wing, Minn.
U. S. Stoneware Co., Akron, O.
Western Stoneware Co., Monmouth, Ill.

LABELS AND SEALS (Flat and Embossed)

American Label Co., The, New York, N. Y.
Arkadia Label Corp., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Brett Litho. Co., Long Island City, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brooks & Porter, Inc., New York, N. Y.—Insert 64-65
Calvert Lithographing Co., The, Detroit, Mich.
Cambridge Paper Box Co., Cambridge, Mass.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Consolidated Lithographing Corp., Brooklyn, N. Y.
Crown Paper Box & Label Co., San Antonio, Texas
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Fenton Label Co., Philadelphia, Pa.—Insert 260-261
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Forbes Litho. Mfg. Co., Boston, Mass.—185, 303
Foxon Co., The, Providence, R. I.—Insert 266-267
French-Bray Co., The, Baltimore, Md.
Grand Rapids Label Co., Grand Rapids, Mich.
Hanograf Corp., New York, N. Y.
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Horn, John, New York, N. Y.
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
Kaumagraph Co., New York, N. Y.
Kehlmann Co., L., New York, N. Y.
Ketterlinus Litho. Mfg. Co., Philadelphia, Pa.
Kittredge & Co., R. J., Chicago, Ill.—Insert 260-261
Krause, Inc., Richard M., New York, N. Y.—Insert 270-271
Lambooy Label & Wrapper Co., Kalamazoo, Mich.
Lord Baltimore Press, Baltimore, Md.
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
May Co., The J. L., New York, N. Y.
Michigan Litho. Co., Grand Rapids, Mich.
Milwaukee Label & Seal Co., Milwaukee, Wis.
Muirson Label Co., Inc., Brooklyn, N. Y.
Nalco, Inc., New York, N. Y.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
National Color Printing Co., Inc., The, Baltimore, Md.—265
Outserts, Inc., New York, N. Y. (combination folder and label)
Palm, Fechteler & Co., New York, N. Y.—267
Reyburn Mfg. Co., The, Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Robinson Tag & Label Co., New York, N. Y.
Rode & Rand, New York, N. Y.
St. Louis Sticker Co., St. Louis, Mo.
Schmitt & Co., Inc., Geo., Brooklyn, N. Y.
Shellmar Products Co., Chicago, Ill.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., The, Dayton, O.
Stecher-Traung Litho. Corp., Rochester, N. Y. and San Francisco, Cal.—Insert 258-259
Tablet & Ticket Co., The, Chicago, Ill.—263
Tompkins' Label Service, Philadelphia, Pa.
Unique Printed Products Co., Inc., Terre Haute, Ind.
United States Printing & Litho. Corp., The, Cincinnati, O., Baltimore, Md., and New York, N. Y.—Insert 268-269 and 304-305
Warner Bros. Co., The, Bridgeport, Conn.—63
Weil Sons Litho. Co., David, Brooklyn, N. Y.
Western Label Co., Los Angeles, Cal.
Wheeler-Van Label Co., Grand Rapids, Mich.
Wood, Nathan & Virkus Co., Inc., New York, N. Y.—Insert 424-425
Woodward & Tiernan Printing Co., New York, N. Y.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Wynekoop Co., Walker, Chicago, Ill.

LABELS, MAILING AND SHIPPING

Bartlett Label Co., Kalamazoo, Mich.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Fenton Label Co., Phildaelphia, Pa.—Insert 260-261

French-Bray Printing Co., The, Baltimore, Md.
Horn, John, New York, N. Y.
Howell & Co., F. M., Elmira, N. Y.—Insert 300-301
Kalamazoo Label Co., Kalamazoo, Mich.
Kittredge & Co., R. J., Chicago, Ill.—Insert 260-261
Mason Box Co., The, Attleboro Falls, Mass.
May Co., The J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
National Color Printing Co., Inc., The, Baltimore, Md.—265
Palm, Fechteler & Co., New York, N. Y.—267
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Reyburn Mfg. Co., The, Philadelphia, Pa.
St. Louis Sticker Co., St. Louis, Mo.
Salisbury Mfg. Co., Providence, R. I.
Shuman Co., The, Frank G., Chicago, Ill.
Tablet & Ticket Co., The, Chicago, Ill.—263
Tompkins' Label Service, Philadelphia, Pa.
Unique Printed Products Co., Inc., Terre Haute, Ind.
Wheeler-Van Label Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

LABELS, METAL

American Can Co., New York, N. Y.
Arkadia Label Corp., New York, N. Y.
Attleboro Printing & Embossing Co., Attleboro, Mass.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.
Foxon Co., The, Providence, R. I.—Insert 266-267
French-Bray Printing Co., The, Baltimore, Md.
Kittredge & Co., R. J., Chicago, Ill.—Insert 260-261
Krause, Inc., Richard M., New York, N. Y.—Insert 270-271
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
May Co., The J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
National Color Printing Co., Inc., The, Baltimore, Md.—265
Probar Corp., Orange, N. J.
Reyburn Mfg. Co., The, Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Rode & Brand, New York, N. Y.
St. Louis Sticker Co., St. Louis, Mo.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., Dayton, O.
Tablet & Ticket Co., The, Chicago, Ill.—263
United States Printing & Lithograph Co., The, American Lithographic Division, New York, N. Y.—Insert 268-269 and 304-305
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Wynekoop Co., Walker, Chicago, Ill.

LABELS, TRANSPARENT

Consolidated Lithographing Corp., Brooklyn, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Dobeckmun Co., The, Cleveland, O.—406-407
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Fiberloid Corp., The, Indian Orchard, Mass.
Forbes Lithograph Mfg. Co., The, Boston, Mass.—185, 303
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
Palm, Fechteler & Co., New York, N. Y.—267
Reyburn Mfg. Co., The, Philadelphia, Pa.
Shellmar Products Co., Chicago, Ill.

LABORATORIES, RESEARCH AND TESTING
(Closures, Liners, Wrappers, etc.)

Armstrong Cork Products Co. Closure Division, Lancaster, Pa.—228-229
Bridgeport Testing Laboratory, Bridgeport, Conn.
Container Testing Laboratories, Inc., New York, N. Y.
Detroit Testing Laboratory, Detroit, Mich.
Little, Inc., Arthur D., Cambridge, Mass.
Owens-Illinois Glass Co., Toledo, O.—242-245
Pittsburgh Testing Laboratory, Pittsburgh, Pa.

LACQUERS
(Solutions for Paper, Fabric and Wood Finishing)

Atlas Powder Co., Zapon Division, Stamford, Conn.
Chemical Products Corp., Rumford, R. I.
Commercial Solvents Corp., New York, N. Y.—Insert 404-405
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Egyptian Lacquer Mfg.Co., The, New York, N. Y.—Insert facing 408
Fiberloid Corp., The, Indian Orchard, Mass.
Hercules Powder Co., Wilmington, Del.—Insert 422-423
Maas & Waldstein Co., Newark, N. J.—Insert 412-413
Murphy Varnish Co., Essex Varnish Division, Newark, N. J.
Pope & Gray, Inc., New York, N. Y.—421
Pyroxylin Products, Inc., Chicago, Ill.—Insert 416-417
Roxalin Flexible Lacquer Co., Elizabeth, N. J.
Sherwin-Williams Co., The, Cleveland, Ohio

LAMINATING, CUSTOM

Atlantic Carton Corp., Norwich, Conn.
Cambridge Paper Box Co., Cambridge, Mass.
Collins Mfg. Co., A. M., Philadelphia, Pa.
Diana Mfg. Co., Green Bay, Wis.
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Fischer-Partelow, Inc., New York, N. Y.
Frank Associates, Inc., New York, N. Y.
Miller, Inc., Bert C., New York, N. Y.
New England Card & Paper Co., Inc., Springfield, Mass.
Ralston & Co., Inc., W., Niagra Falls, N. Y.
Shellmar Products Co., Chicago, Ill.
Shoup-Owens, Inc., Hoboken, N. J.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Walser Mfg. Co., Inc., Clifton, N. J.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165

LATEX
(Normal, Concentrated, Processed)

Arabol Mfg. Co., New York, N. Y.—461
Dewey & Almy Chemical Co., Cambridge, Mass.—247
Graeme Harrison Products, Inc., New York, N. Y.
Heveatex Corp., Melrose, Mass.
Kittredge & Co., R. J., Chicago, Ill.—Insert 260-261

LEATHER, IMITATION

Aldine Paper Co., New York, N. Y.
Atlas Powder Co., Zapon Division, Stamford, Conn.
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Dejonge & Co., Louis, New York, N. Y.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Holliston Mills, Inc., The, Norwood, Mass.—175
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Keratol Co., The, Newark, N. J.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Peerless Roll Leaf Co., Inc., Union City, N. J.
Permatex Fabrics Co., The, Jewett City, Conn.
Premoid Co., Springfield, Mass.
Pyrotex Leather Co., Leominster, Mass.
Revolite Corp., New Brunswick, N. J.
Standard Textile Products Co., New York, N. Y.
Textileather Corp., Toledo, O.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
United States Rubber Products, Inc., New York, N. Y.
Whiting Co., Inc., C. R., Hackensack, N. J.—Insert 150-151
Williams & Co., Inc., Chas. W., New York, N. Y.

LINERS
(Box, Barrel and Bag)

Angier Corp., Framingham, Mass.
Arkell Safety Bag Co., New York, N. Y.
Bemis Bro. Bag Co., St. Louis, Mo.
Container Corp. of America, Chicago, Ill.
Continental Color Corp., Cleveland, O.—435
Eddy Paper Corp., The, Three Rivers, Mich.
Edgewater Paper Co., Menasha, Wis.
Fort Orange Paper Co., Castleton on Hudson, N. Y.—57
Gair Co., Inc., Robert, New York, N. Y.—306
Gardner-Richardson Co., The, Middletown, O.—76-77
Hamersley Mfg. Co., Inc., Garfield, N. J.
Hinde & Dauch Paper Co., Sandusky, O.
International Paper Co., New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Kieckhefer Container Co., Milwaukee, Wis., and Delair, N. J.
Kimberly-Clark Corp., Philadelphia, Pa.—454-455
Matthias Paper Corp., Philadelphia, Pa.
Owens-Illinois Pacific Coast Co., San Francisco, Cal.
Paper Service Co., The, Lockland, O.
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Rexford Paper Co., Milwaukee, Wis.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Rockford Fibre Container Co., Rockford, Ill.
Safepack Mills, Millis, Mass.

Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Traver Corp., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165

LINERS, CAP

American Star Cork Co., Inc., Brooklyn, N. Y.
Anchor Cap & Closure Co., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Bond-Penn Tube Co., Wilmington, Del.—205
Dewey & Almy Chemical Co., Cambridge, Mass.—247
General Felt Products, Inc., Brooklyn, N. Y.
Irvington Varnish & Insulator Co., Irvington, N. Y.
Mundet Cork Corp., Brooklyn, N. Y.—251
Owens-Illinois Glass Co., Toledo, O.—242-245
Phoenix Metal Cap Co., Chicago, Ill.
Standards Insulation Co., East Rutherford, N. J.

LITHOGRAPHERS

American Colortype Co., New York, N. Y.
American Lithographic Division of The United States Printing & Lithograph Co., New York, N. Y.—Insert 268-269 and 304-305
Art Gravure Corp., New York, N. Y.
Atlantic Litho. & Ptg. Division of The United States Printing & Lithograph Co., New York, N. Y.
Bretf Litho. Co., Long Island City, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brooks & Porter, Inc., New York, N. Y.—Insert 64-65
Brown & Bigelow, Inc., St. Paul, Minn.
Calvert Litho. Co., Detroit, Mich.
Cambridge Paper Box Co., Cambridge, Mass.
Consolidated Lithographing Corp., Brooklyn, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Donaldson Litho Division of The United States Printing & Lithograph Co., Newport, Ky.—Insert 268-269 and 304-305
Edwards & Deutsch Litho. Co., Chicago, Ill.
Einson-Freeman Co., Inc., Long Island City, N. Y.—Insert 298-299
Erie Litho & Printing Division of The U. S. Printing & Lithograph Co., Erie, Pa.—Insert 268-269 and 304-305
Fairchild Corp., E. E., Rochester, N. Y.
Federal Litho. Co., Detroit, Mich.
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Forbes Litho. Mfg. Co., The, Boston, Mass.—185, 303
Genesee Valley Litho. Co., Rochester, N. Y.
Goes Litho. Co., Chicago, Ill.
Gugler Litho. Co., Milwaukee, Wis.
Haass Litho. Co., Inc., New York, N. Y.
Henderson Litho. Co., Cincinnati, O.
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Kaumagraph Co., New York, N. Y.
Ketterlinus Litho. Mfg. Co., Philadelphia, Pa.
Lord Baltimore Press, Baltimore, Md.
McCandlish Litho. Corp., Philadelphia, Pa.
Magill-Weinsheimer Co., Chicago, Ill.
Meyercord Co., Chicago, Ill.
Michaelson Lithograph Co., Brooklyn, N.Y.
Michigan Litho. Co., Grand Rapids, Mich.
Milprint Products Corp., Milwaukee, Wis.
Nalco, Inc., New York, N. Y.
National Color Printing Co., Inc., The, Baltimore, Md.—265
National Folding Box Co., New Haven, Conn.
National Printing & Engraving Co., Chicago, Ill.
Niagara Lithograph Co., The, Buffalo, N. Y.—Insert 308-309
Northwestern Litho. Co., Milwaukee, Wis.
Oberly & Newell, New York, N. Y.
Offset Gravure Corp., Long Island City, N. Y.
Palmer Advertising Service Division of The United States Printing & Lithograph Co., New York, N. Y.—Insert 268-269 and 304-305
Pictorial Paper Package Corp., Aurora, Ill.
Polygraphic Co. of America, Inc., New York, N. Y.
Powers Division, W. F., of The United States Printing & Lithograph Co., New York, N. Y.—Insert 268-269 and 304-305
Regensteiner Corp., Chicago, Ill.
Reynolds & Reynolds Co., Dayton, O.
Rochester Folding Box Co., Rochester, N.Y.
Rode & Brand, Inc., New York, N. Y.
Sale Litho. Co., Buffalo, N. Y.
Schmidt Litho. Co., San Francisco, Cal.
Schmidt Lithographing, Theo. A., Division of the United States Printing & Lithograph Co., New York, N. Y.
Schmitt & Co., Inc., Geo., Brooklyn, N. Y.
Schultz Litho Co., A. C., Milwaukee, Wis.
Snyder & Black, Inc., New York, N. Y.
Standard Printing Co., Louisville, Ky.
Stecher-Traung Litho. Corp., Rochester, N. Y.—Insert 258-259
Strobridge Litho. Co., Cincinnati, O.
Stubbs Co., The, Detroit, Mich.
Trautmann, Bailey & Blampey, New York, N. Y.
United Displays, Cleveland, O.—311
U. S. Printing & Lithograph Co., The, New York, N. Y. and Cincinnati, O.—Insert 268-269 and 304-305
Waddill Printing & Litho. Co., Danville, Va.
Walker Litho. & Pub. Co., Boston, Mass.
Weil Sons Litho. Co., David, Brooklyn, N. Y.
Wilmanns Bros. Co., Milwaukee, Wis.

LITHOGRAPHERS, METAL

American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Burdick & Son, Inc., Albany, N. Y.—213
Clark Co., Inc., Geo. V., Long Island City, N. Y.
Clark Mfg. Co., J. L., Rockford, Ill.
Continental Can Co., Inc., New York, N. Y.—Insert 200-201
Heekin Can Co., The, Cincinnati, O.
Metal Litho. Corp., Brooklyn, N. Y.—217
National Can Co., Inc., New York, N. Y.—193
Owens-Illinois Can Co., Toledo, O.—198-199
Owens-Illinois Glass Co., Toledo, O.—242-245
Phoenix Metal Cap Co., Chicago, Ill.
Robertson Steel & Iron Co., W. F., Springfield, O.
White Cap Co., Chicago, Ill.

MACHINES, AUTOMATIC PRINTING

Chambon Corp., Garfield, N. J.—425
L. C. Machinery Co., Inc., New York, N. Y.—417
Marconetti Inc., A. E., New York, N. Y.—414-415
Meisel Press Mfg. Co., Boston, Mass.—413
Package Machinery Co., Springfield, Mass.—398-399
Printcote Co., The, New York, N. Y.—418-419
Smithe Machine Co., Inc., F. L., New York, N. Y.—349
U. P. M. Kidder Press Co., Dover, N. H.—411
Waldron Corp., John, New Brunswick, N. J.—423

MACHINES, AUTOMATIC WEIGHING, DRY FILLING (Gross and Net Weight—Volumetric)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Arenco Machine Co., Inc., New York, N. Y.—361
Automatic Packaging Corp., Devon, Pa.
Brown Bag Filling Machine Co., Fitchburg, Mass.—365
Cartoning Machinery Corp., Newport, R. I.—377
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Goat Co., Inc., The Fred, Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Modern Machine Shop, The, Danville, Ill.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England.—378-379
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Scale Co., Toledo, O.
Triangle Package Machinery Co., Chicago, Ill.—333
United States Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, BAG FILLING AND SEALING

Acme Staple Co., Camden, N. J.—437
American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Arenco Machine Co., Inc., New York, N. Y.—361
Automatic Packaging Corp., Devon, Pa.
Bemis Bro. Bag Co., St. Louis, Mo.
Bostitch Inc., East Greenwich, R. I.—331
Brown Bag Filling Machine Co., The, Fitchburg, Mass.—365
Cartoning Machinery Corp., Newport, R. I.—377
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Dexter Folder Co., New York, N. Y.—441-446
Ferguson Co., J. L., Joliet, Ill.—397
Frank Machine Works, Julius, Chicago, Ill.—369
Frazier & Son, Belleville, N. J.
Goat Machine Co., Inc., The Fred, Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Ivers-Lee Co., The, Newark, N. J.—367
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Modern Machine Shop, The, Danville, Ill.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Package Machinery Co., Springfield, Mass.—398-399
Peters Machinery Co., Chicago, Ill.—381
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383

XUM

Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Saranac Machine Co., Benton Harbor, Mich.—453
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, BAG FLOUR PACKING AND WEIGHING

Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Gump Co., B. F., Chicago, Ill.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383

MACHINES, BAG MAKING (Cellulose Envelope, Satchel Bottom, Window Patching, Paper, etc.)

American Machine & Foundry Co., New York, N. Y.—378-379
Arenco Machine Co., Inc., New York, N. Y.—361
Cartoning Machinery Corp., Newport, R. I.—377
Goat Machine Co., Inc., The Fred, Brooklyn, N. Y.
International Paper Box Machine Co., Nashua, N. H.—359
Package Machinery Co., Springfield, Mass.—398-399
Parrish, Asa L., South Bend, Ind.
Potdevin Machine Co., Brooklyn, N. Y.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Smith & Winchester Mfg. Co., South Windham, Conn.
Smithe Machine Co., Inc., F. L., New York, N. Y.—349
Staude Mfg. Co., E. G., St. Paul, Minn.
Transparent Wrap Machine Corp., New York, N. Y.—357
Waldron Corp., John, New Brunswick, N. J.—423

MACHINES, BANDING CIGAR

American Machine & Foundry Co., New York, N. Y.—378-379
Colton Co., Arthur, Detroit, Mich.—395
Consolidated Lithographing Corp., Brooklyn, N. Y.
New Jersey Machine Corp., Hoboken, N. J.—372-373

MACHINES, BASKET MAKING

Saranac Machine Co., Benton Harbor, Mich.—453

MACHINES, BOTTLE CAPPING AND SEALING

Aluminum Seal Co., New Kensington, Pa.—209
American Seal-Kap Corp., Long Island City, N. Y.—235
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Crown Cork & Seal Co., Baltimore, Md.—239
Elgin Mfg. Co., Elgin, Ill.
Filler Machine Co., Inc., The, Philadelphia, Pa.—347
Haskins Co., R. G., Chicago, Ill.
Horix Manufacturing Co., Pittsburgh, Pa.—375
Kiefer Machine Co., The Karl, Cincinnati, O.
Liquid Carbonic Corp., The, Chicago, Ill.—363
Ludcke Co., Watertown, Mass.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Owens-Illinois Glass Co., Toledo, O.—242-245
Package Machinery Co., Springfield Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
U. S. Bottlers Machinery Co., Chicago, Ill.—341
White Cap Co., Chicago, Ill.
Williams Sealing Corp., Decatur, Ill.

MACHINES, BOTTLE CLEANING (Vacuum)

Kiefer Machine Co., Karl, Cincinnati, O.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
U. S. Bottlers Machinery Co., Chicago, Ill.—341

MACHINES, BOTTLE CORKING

Ermold Co., Edward, New York, N. Y.
Horix Mfg. Co., Pittsburgh, Pa.—375
Kiefer Machine Co., Karl, Cincinnati, O.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
U. S. Bottlers Machinery Co., Chicago, Ill.—341

MACHINES, BOTTLE FILLING (Automatic and Semi-Automatic)

Colton Co., Arthur, Detroit, Mich.—395
Crown Cork & Seal Co., Baltimore, Md.—239
Elgin Mfg. Co., Elgin, Ill.
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
Horix Mfg. Co., Pittsburgh, Pa.—375
Ivers-Lee Co., Newark, N. J.—367
Kiefer Machine Co., Karl, Cincinnati, O.
Liquid Carbonic Corp., The, Chicago, Ill.—363
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Vol-U-Meter Co., Inc., The, Buffalo, N. Y.

MACHINES, BOTTLE FILLING (Automatic and Semi-Automatic for Dry Products)

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Consolidated Packaging Machinery Co., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Modern Machine Shop, The, Danville, Ill.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333
United States Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, BOTTLE WASHING (Soaking and Rinsing)

Elgin Mfg. Co., Elgin, Ill.
Horix Mfg. Co., Pittsburgh, Pa.—375
Kiefer Machine Co., The Karl, Cincinnati, O.
Liquid Carbonic Corp., The, Chicago, Ill.—363
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Stokes Machine Co., F. J., Philadelphia, Pa.—351
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Yundt Co., Michael, Waukesha, Wis.

MACHINES, BOX COLLAPSING

National Packaging Machinery Co., Newtonville, Mass.—338-339
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, BOX FOLDING, GLUING, STITCHING

Bostitch, Inc., East Greenwich, R. I.—331
Chambon Corp., Garfield, N. J.—425
Dexter Folder Co., New York, N. Y.—441-446
Ferguson Co., J. L., Joilet, Ill.—397
Heller Co., The, Cleveland, Ohio—459
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
International Paper Box Machine Co., Nashua, N. H.—359
Knowlton Co., M. D., Rochester, N. Y.—371
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
National Metal Edge Box Co., Philadelphia, Pa.—61
National Packaging Machinery Co., Newtonville, Mass.—338-339
New Jersey Machine Corp., Hoboken, N. J.—372-373
Saranac Machine Co., Benton Harbor, Mich.—453
Staude Mfg. Co., E. G., St. Paul, Minn.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
U. S. Automatic Box Machinery Co., Newtonville, Mass.—338-339

MACHINES, BOX PACKING

American Machine & Foundry Co., New York, N. Y.—378-379
Burt Machine Co., Baltimore, Md.—389
Ferguson Co., J. L., Joliet, Ill.—397
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Modern Machine Shop, The, Danville, Ill.
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Standard-Knapp Corp., Long Island City, N. Y.—335

MACHINES, BOX REINFORCEMENT (Band and Wire Strapping)

Acme Steel Co., Chicago, Ill.—431
Gerrard Co., Inc., The, Chicago, Ill.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, The, New Britain, Conn.
Tennant & Sons, C., New York, N. Y.

MACHINES, BOX WINDOW

Chambon Corp., Garfield, N. J.—425
International Paper Box Machine Co., Nashua, N. H.—359
New Jersey Machine Corp., Hoboken, N. J.—372-373
Smithe Machine Co., Inc., F. L., New York, N. Y.—349
Staude Mfg. Co., E. G., St. Paul, Minn.

MACHINES, BOXBOARD PRINTING

Arenco Machine Co., Inc., New York, N. Y. —361
Beck Machine Co., Charles, Philadelphia, Pa.—385
Chambon Corp., Garfield, N. J.—425
Hooper Co., F. X., Glenarm, Md.
Knowlton Co., M. D., Rochester, N. Y.—371
Langston Co., Samuel M., Camden, N. J.
L. C. Machinery Co., Inc., New York, N. Y. —417
Markem Machine Co., Keene, N. H.
Meisel Press Mfg. Co., Boston, Mass.—413
New Jersey Machine Corp., Hoboken, N. J. —372-373
Standard-Knapp Corp., Long Island City, N. Y.—335
Staude Mfg. Co., E. G., St. Paul, Minn.
Thomson National Press Co., Franklin, Mass.
U. P. M. Kidder Press Co., Dover, N. H.—411

MACHINES, BRONZING

Christensen Machine Co., Racine, Wis.
Henschel Mfg. Co., C. B., Milwaukee, Wis.
Pauli Corp., Karl, New York, N. Y.
Rutherford Machinery Co., Div. General Printing Ink Corp., New York, N. Y.
U. P. M. Kidder Press Co., Dover, N. H.—411

MACHINES, BUNDLE TYING (String)

Acme Steel Co., Chicago, Ill.—431
Bunn Co., B. H., Chicago, Ill.
International Paper Box Machine Co., Nashua, N. H.—359
National Bundle Tyer Co., Blissfield, Mich.

MACHINES, BUNDLE TYING (Wire Strapping)

Acme Steel Co., Chicago, Ill.—431
Gerrard Co., Inc., Chicago, Ill.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, The, New Britain, Conn.
Tennant & Sons, C., New York, N. Y.

MACHINES, BUTTER PRINT

Automat Molding & Folding Co., The, Toledo, O.
L. C. Machinery Co., Inc., New York, N. Y. —417
Morris Packaging Equipment Co., Toledo, O.
Redington Co., F. B., Chicago, Ill.

MACHINES, CAN CAPPING

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Continental Can Co., Inc., New York, N. Y. —Insert 200-201
Crown Cork & Seal Co., Inc., Baltimore, Md.—239
Elgin Mfg. Co., Elgin, Ill.
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
Haskins Co., R. G., Chicago, Ill.
Heekin Co., The, Cincinnati, O.
Kiefer Machine Co., Karl, Cincinnati, O.
Knowlton Co., M. D., Rochester, N. Y.—371
National Can Co., Inc., New York, N. Y.—193
National Packaging Machinery Co., Newtonville, Mass.—338-339
Phoenix Metal Cap Co., Chicago, Ill.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
Stokes Machine Co., F. J., Philadelphia, Pa. —351
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Williams Sealing Corp., Decatur, Ill.

MACHINES, CAN CASING

Burt Machine Co., Baltimore, Md.—389
Ferguson Co., J. L., Joliet, Ill.—397
Heekin Co., The, Cincinnati, Ohio
Knowlton Co., M. D., Rochester, N. Y.—371
Standard-Knapp Corp., Long Island City, N. Y.—335

MACHINES, CAN CLOSING AND SEALING

American Can Co., New York, N. Y.
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Continental Can Co., Inc., New York, N. Y. —Insert 200-201
Dewey & Almy Chemical Co., Cambridge, Mass.—247
Elgin Mfg. Co., Elgin, Ill.
Ferguson Co., J. L., Joliet, Ill.—397
Heekin Co., The, Cincinnati, Ohio
Kiefer Machine Co., Karl, Cincinnati, O.
Knowlton Co., M. D., Rochester, N. Y.—371
National Can Co., Inc., New York, N. Y.—193
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
R. C. Can Co., St. Louis, Mo.—219
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Williams Sealing Corp., Decatur, Ill.

MACHINES, CAN FILLING

American Can Co., New York, N. Y.
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Automatic Scale Co., Inc., New York, N. Y.
Bostitch, Inc., East Greenwich, R. I.—331
Brown Bag Filling Machine Co., Fitchburg, Mass.—365
Colton Co., Arthur, Detroit, Mich.—395
Elgin Mfg. Co., Elgin, Ill.
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
Frazier & Son, Belleville, N. J.
Gump Co., B. F., Chicago, Ill.
Heekin Co., The, Cincinnati, Ohio
Horix Manufacturing Co., Pittsburgh, Pa.—375
Kiefer Machine Co., Karl, Cincinnati, O.
Modern Machine Shop, The, Danville, Ill.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Scientific Filter Co., New York, N. Y.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Scale Co., Toledo, O.
Triangle Packaging Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Vol-U-Meter Co., Inc., Buffalo, N. Y.

MACHINES, CAN LINING

Ams Machine Co., Max, Bridgeport, Conn.
Cameron Can Machinery Co., Chicago, Ill.
Dewey & Almy Chemical Co., Cambridge, Mass.—247

MACHINES, CAPSULE WRAPPING

Ivers-Lee Co., The, Newark, N. J.—367
Modern Machine Shop, The, Danville, Ill.

MACHINES, CARDING (For Display)

Acme Staple Co., Camden, N. J.—437
Bates Mfg. Co., Orange, N. J.
Bostitch, Inc., E. Greenwich, R. I.—331
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
New Jersey Machine Corp., Hoboken, N. J. —372-373

MACHINES, CARTON, AND PAPER BOXMAKING

Acme Staple Co., Camden, N. J.—437
American Machine & Foundry Co., New York, N. Y.—378-379
Arenco Machine Co., Inc., New York, N. Y. —361
Bostitch, Inc., E. Greenwich, R. I.—331
Cartoning Machinery Corp., Newport, R. I. —377
Chambon Corp., Garfield, N. J.—425
Dexter Folder Co., New York, N. Y.—441-446
Ferguson Co., J. L., Joliet, Ill.—397
Goat Machine Co., Inc., The Fred, Brooklyn, N. Y.
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Inman Manufacturing Co., Amsterdam, N. Y.
International Paper Box Machine Co., Nashua, N. H.—359
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Knowlton Co., M. D., Rochester, N. Y.—371
L. C. Machinery Co., Inc., New York, N. Y. —417
National Metal Edge Box Co., Philadelphia, Pa.—61
National Packaging Machinery Co., Newtonville, Mass.—338-339
New Jersey Machine Corp., Hoboken, N. J. —372-373
Package Machinery Co., Springfield, Mass. —398-399
Peters Machinery Co., Chicago, Ill.—381
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383

Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Saranac Machine Co., Benton Harbor, Mich.—453
Self-Locking Machinery Co., Chicago, Ill.
Staude Manufacturing Co., E. G., St. Paul, Minn.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
U. S. Automatic Box Machinery Co., Newtonville, Mass.—338-339

MACHINES, CARTON FORMING, LINING, FILLING, FOLDING, CLOSING

American Machine & Foundry Co., New York, N. Y.—378-379
Arenco Machine Co., Inc., New York, N. Y.—361
Automat Molding & Folding Co., Toledo, O.
Bostitch, Inc., E. Greenwich, R. I.—331
Cartoning Machinery Corp., Newport, R. I.—377
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Goat Machine Co., Inc., The Fred, Brooklyn, N. Y.
International Paper Box Machine Co., Nashua, N. H.—359
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Knowlton Co., M. D., Rochester, N. Y.—371
Morris Packaging Equipment Co., Toledo, O.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Peters Machinery Co., Chicago, Ill.—381
Pneumatic Scale Corp., Norfolk Downs Sta., Quincy, Mass.—383
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Newtonville, Mass.—338-339

MACHINES, CARTON LOADING

American Machine & Foundry Co., New York, N. Y.—378-379
Automat Molding & Folding Co., The, Toledo, O.
Cartoning Machinery Corp., Newport, R. I.—377
Ferguson Co., J. L., Joliet, Ill.—397
Frazier & Son, Belleville, N. J.
Goat Machine Co., Inc., The Fred, Brooklyn, N. Y.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Jones & Co., Inc., R. A., Cincinnati, O.
Morris Packaging Equipment Co., Toledo, O.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Peters Machinery Co., Chicago, Ill.—381
Pneumatic Scale Corp., Ltd., Norfolk Downs, Mass.—383
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Standard-Knapp Corp., Long Island City, N. Y—335
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, CARTON PARAFFINING

International Paper Box Machine Co., Nashua, N. H.—359
Knowlton Co., M. D., Rochester, N. Y.—371

MACHINES, CELLULOSE TUBE MAKING

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Ivers-Lee Co., The, Newark, N. J.—367
Knowlton Co., M. D., Rochester, N. Y.—371
Wrap-Ade Machine Co., Inc., Newark, N. J.—391

MACHINES, COATING (Lacquer and Varnish)

Cameron Machine Co., Brooklyn, N. Y.
Chambers Bros. Co., Philadelphia, Pa.
Chambon Corp., Garfield, N. J.—425
Colton Co., Arthur, Detroit, Mich.—395
Knowlton Co., M. D., Rochester, N. Y.—371
L. C. Machinery Co., Inc., New York, N. Y.—417
Miller Inc., Bert C., New York, N. Y.
New Jersey Machine Corp., Hoboken, N. J.—372-373
Potdevin Machine Co., Brooklyn, N. Y.
Saranac Machine Co., Benton Harbor, Mich.—453
Wagner Litho. Machinery Co., Charles, Hoboken, N. J.
Waldron Corp., John, New Brunswick, N. J.—423

MACHINES, COLLAPSIBLE TUBE FILLING AND SEALING

Arenco Machine Co., Inc., New York, N. Y.—361
Colton Co., Arthur, Detroit, Mich.—395
Kiefer Machine Co., Karl, Cincinnati, O.
Standard Specialty & Tube Co., New Brighton, Pa.—211
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Wirz, Inc., A. H., Chester, Pa.—190

MACHINES, CONTAINER SEALING (Adhesive)

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Bostitch, Inc., E. Greenwich, R. I.—331
Burt Machine Co., Baltimore, Md.—389
Ferguson Co., J. L., Joliet, Ill.—397
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Saranac Machine Co., Benton Harbor, Mich.—453
Standard-Knapp Corp., Long Island City, N. Y.—335

MACHINES, CONTAINER SEALING (Gummed Tape)

Better Packages, Inc., Shelton, Conn.
Diagraph Stencil Machine Co., St. Louis, Mo.
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Gummed Products Co., The, Troy, O.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Knowlton Co., M. D., Rochester, N. Y.—371
Link Co., Inc., L., New York, N. Y.
Metal Specialties Co., Chicago, Ill.
Nashua Package Sealing Co., Nashua, N. H.—Insert 162-163
Peters Machinery Co., Chicago, Ill.—381
Potdevin Machine Co., Brooklyn, N. Y.

MACHINES, CONTAINER SEALING (Staples and Wire)

Acme Staple Co., Camden, N. J.—437
Bostitch, Inc., E. Greenwich, R. I.—331
Dexter Folder Co., New York, N. Y.—441-446
Heller Co., The, Cleveland, O.—459
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Morrison Co., J. L., Niagara Falls, N. Y.
Saranac Machine Co., Benton Harbor, Mich.—453

MACHINES, COUNTING

Ivers-Lee Co., The, Newark, N. J.—367
Redington Co., F. B., Chicago, Ill.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
Veeder-Root Co., Hartford, Conn.

MACHINES, CREPEING

Waldron Corp., John, New Brunswick, N. J.—423

MACHINES, CRIMPING AND SEALING (Transparent Cellulose)

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Gruenberg Electric Co., New York, N. Y.
Heat-Seal-It Co., Philadelphia, Pa.
Simplex Wrapping Machine Co., Oakland, Cal.
Wrap-Ade Machine Co., Inc., Newark, N. J.—391

MACHINES, EMBOSSING

Barnard Mfg. Co., Paul J., Racine, Wis.
Dornbusch Agency, Inc., The, New York, N. Y.—343
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Knowlton Co., M. D., Rochester, N. Y.—371
Marconetti, Inc., A. E., New York, N. Y.—414-415
Markem Machine Co., Keene, N. H.
New Jersey Machine Corp., Hoboken, N. J.—372-373
Peerless Roll Leaf Co., Inc., Union City, N. J.
Perkins Co., B. F., Holyoke, Mass.
Printcote Co., The, New York, N. Y.—418-419
Rutherford Machinery Co., New York, N. Y.
Thomson National Press Co., Franklin, Mass.
Waldron Corp., John, New Brunswick, N. J.—423
Wood, Nathan & Virkus Co., Inc., New York, N. Y.—Insert 424-425

MACHINES, ENVELOPE MAKING

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Cartoning Machinery Corp., Newport, R. I.—377
International Paper Box Machine Co., Nashua, N. H.—359
Ivers-Lee Co., The, Newark, N. J.—367
Modern Machine Shop, The, Danville, Ill.
Smithe Machine Co., Inc., F. L., New York, N. Y.—349

Staude Mfg. Co., E. G., St. Paul, Minn.
Transparent Wrap Machine Corp., New York, N. Y.—357
U. P. M. Kidder Press Co., Dover, N. H.—411

MACHINES, FIBRE CAN FILLING, SEALING AND CLOSING

American Can Company, New York, N. Y.
American Machine & Foundry Co., New York, N. Y.—378-379
Bostitch, Inc., E. Greenwich, R. I.—331
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Horix Mfg. Co., Pittsburgh, Pa.—375
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Knowlton Co., M. D., Rochester, N. Y.—371
Lily Tulip Cup Corp., New York, N. Y.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339

MACHINES, FIBRE CAN MAKING

American Can Co., New York, N. Y.
Chambon Corp., Garfield, N. J.—425
Ferguson Co., J. L., Joliet, Ill.—397
Knowlton Co., M. D., Rochester, N. Y.—371
Langston Co., Samuel M., Camden, N. J.
New Jersey Machine Corp., Hoboken, N. J.—372-373
Staude Mfg. Co., E. G., St. Paul, Minn.

MACHINES, GLUING (For Label, Wraps, etc.)

American Machine & Foundry Co., New York, N. Y.—378-379
Burt Machine Co., Baltimore, Md.—389
Cartoning Machinery Corp., Newport, R. I.—377
Economic Machinery Co., Worcester, Mass.—353
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Ferguson Co., J. L., Joliet, Ill.—397
Grammes & Son, Inc., L. F., Allentown, Pa.
Knowlton Co., M. D., Rochester, N. Y.—371
Liquid Carbonic Corp., The, Chicago, Ill.—363
New Jersey Machine Corp., Hoboken, N. J.—372-373
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Potdevin Machinery Co., Brooklyn, N. Y.
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Scientific Filter Co., New York, N. Y.
Staude Mfg. Co., E. G., St. Paul, Minn.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333

MACHINES, GRANULATING

Colton Co., Arthur, Detroit, Mich.—395
Stokes Machine Co., F. J., Philadelphia, Pa.—351

MACHINES, GUMMED TAPE MOISTENING

Better Package, Inc., Shelton, Conn.
Chippewa Paper Products Corp., Chicago, Ill.
Diagraph Stencil Machine Co., St. Louis, Mo.
Edgewater Paper Co., Menasha, Wis.
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Gummed Products Co., The, Troy, O.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Knowlton Co., M. D., Rochester, N. Y.—371
Link & Company, Inc., L., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Metal Specialties Co., Chicago, Ill.
Mid-States Gummed Paper Co., Chicago, Ill.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Nashua Package Sealing Co., Inc., Nashua, N. H.—Insert 162-163

MACHINES, HEAT SEALING (Transparent Cellulose)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Products, Inc., New York, N. Y.—387
Cartoning Machinery Corp., Newport, R. I.—377
Ferguson, J. L., Joliet, Ill.—397
Hayssen Mfg. Co., Sheboygan, Wis.
Heat Seal-It Co., Philadelphia, Pa.
Ivers-Lee Co., The, Newark, N. J.—367
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
National Packaging Machinery Co., Newtonville, Mass.—338-339
Package Machinery Co., Springfield, Mass.—398-399
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
Wrap-Ade Machine Co., Inc., Newark, N. J.—391

MACHINES, LABELING

Acme Staple Co., Camden, N. J.—437
American Machine & Foundry Co., Brooklyn, N. Y.—378-379
Arenco Machine Co., Inc., New York, N. Y.—361
Burt Machine Co., Baltimore, Md.—389
Diagraph Stencil Machine Co., St. Louis, Mo.
Economic Machinery Co., Worcester, Mass.—353
Ermold Co., Edward, New York, N. Y.
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Ferguson Co., J. L., Joliet, Ill.—397
Knowlton Co., M. D., Rochester, N. Y.—371
Liquid Carbonic Corp., O. & J., Label Div., Chicago, Ill.—363
New Jersey Machine Co., Hoboken, N. J. (Round Can)—372-373
Package Machinery Co., Springfield, Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Potdevin Machine Co., Brooklyn, N. Y.
Redington, Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Rutherford Machinery Co., New York, N.Y.
Scientific Filter Co., New York, N. Y.
Standard-Knapp Corp., Long Island City, N. Y.—335
Staude Mfg. Co., E. G., St. Paul, Minn.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401

MACHINES, LAMINATING (Cellulose)

Cameron Machine Co., Brooklyn, N. Y.
Chambon Corp., Garfield, N. J.—425
Miller, Inc., Bert C., New York, N. Y.
New Jersey Machine Corp., Hoboken, N. J.—372-373
Waldron Corp., John, New Brunswick, N. J.—423

MACHINES, LIQUID FILLING

Alsop Engineering Mfg. Co., New York, N. Y.
Beach-Russ Co., New York, N. Y.
Colton Co., Arthur, Detroit, Mich.—395
Crandall Can Filler Machine Co., Buffalo, N. Y.
Crown Cork & Seal Co., Baltimore, Md.—239
Elgin Mfg. Co., Elgin, Ill.
Ertel Engineering Corp., New York, N. Y.
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
Horix Mfg. Co., Pittsburgh, Pa.—375
Kiefer Machine Co., Karl, Cincinnati, O.
Liquid Carbonic Corp., The, Chicago, Ill.—363
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Toledo Precision Devices, Inc., Toledo, O.
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Vol-U-Meter Co., Inc., Buffalo, N. Y.

MACHINES, METAL CAN MAKING

Ams Machine Co., Max, Bridgeport, Conn.
Bliss Co., E. W., Brooklyn, N. Y.
Cameron Can Machinery Co., Chicago, Ill.

MACHINES, METAL EDGE STAYING (For Boxes and Cartons)

National Metal Edge Box Co., Philadelphia, Pa.—61

MACHINES, MILK BOTTLE HOODING

Aluminum Company of America, Pittsburgh, Pa.—209
American Seal-Kap Co., Inc., Long Island City, N. Y.—235
Package Machinery Co., Springfield, Mass.—398-399

MACHINES, NUMBERING

American Numbering Machine Co., Brooklyn, N. Y.
American Perforater Co., Chicago, Ill.
Bates Mfg. Co., The, New York, N. Y.
Ferguson Co., J. L., Joliet, Ill.—397
Force Co., Wm. A., New York, N. Y.

MACHINES, PACKET FILLING

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387

Arenco Machine Co., Inc., New York, N. Y. —361
Bostitch, Inc., E. Greenwich, R. I.—331
Brown Bag Filling Machine Co., The, Fitchburg, Mass.—365
Cartoning Machinery Corp., Newport, R. I. —377
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Ferguson Co., J. L., Joliet, Ill.—397
Frank Machine Works, Julius, Chicago, Ill.—369
Frazier & Son, Belleville, N. J.
Goat Co., Inc., The Fred, Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Ivers-Lee Co., Newark, N. J.—367
Modern Machine Shop, The, Danville, Ill.
National Packaging Machinery Co., Newtonville, Mass.—338-339
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
Transparent Wrap Machine Corp., New York, N. Y.—357
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc. Newtonville, Mass.—338-339
Wright's Automatic Packaging Machine Co., Durham, N. C.

MACHINES, PARTITION ASSEMBLING

Standard-Knapp Corp., Long Island City, N. Y.—335

MACHINES, PASTING AND GUMMING

Burt Machine Co., Baltimore, Md.—389
Cameron Machine Co., Brooklyn, N. Y.
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
International Paper Box Machine Co., Nashua, N. H.—359
Knowlton Co., M. D., Rochester, N. Y.—371
New Jersey Machine Corp., Hoboken, N. J. —372-373
Printcote Co., The, New York, N. Y.—418-419
Scientific Filter Co., New York, N. Y.
Smithe Machine Co., Inc., F. L., New York, N. Y.—349
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Waldron Corp., John, New Brunswick, N. J. —423

MACHINES, PREFORMING AND TABLETTING

Colton Co., Arthur, Detroit, Mich.—395
Stokes Machine Co., F. J., Philadelphia, Pa.—351

MACHINES, RAISED PRINTING

Barnard Mfg. Co., Paul J., Racine, Wis.
Wood, Nathan & Virkus Co., Inc., New York, N. Y.—Insert 424-425

MACHINES, REVENUE STAMP

Arenco Machine Co., Inc., New York, N. Y. —361

MACHINES, ROLL SHEETING (Cellulose)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery Co., New York, N. Y.—387
Beck Machine Co., Chas., Philadelphia, Pa.—385
Dexter Folder Co., New York, N. Y.—441-446
Everett Machine Co., New York, N. Y.
Ivers-Lee Co., The, Newark, N. J.—367
Knowlton Co., M. D., Rochester, N. Y.—371
Marconetti, Inc., A. E., New York, N. Y.—414-415
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
Peters Machinery Co., Chicago, Ill.—381
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Saranac Machine Co., Benton Harbor, Mich.—453
Wrap-Ade Machine Co., Inc., Newark, N. J. —391

MACHINES, ROLL SLITTERS AND REWINDERS

Beck Machine Co., Chas., Philadelphia, Pa. —385
Beloit Iron Works, Beloit, Wis.
Cameron Machine Co., Brooklyn, N. Y.
Chambon Corp., Garfield, N. J.—425
Inman Mfg. Co., Amsterdam, N. Y.
Knowlton Co., M. D., Rochester, N. Y.—371
Langston Co., Samuel M., Camden, N. J.
L. C. Machinery Co., Inc., New York, N. Y. —417
Meisel Press Mfg. Co., Boston, Mass.—413
Staude Mfg. Co., E. G., St. Paul, Minn.
U. P. M. Kidder Press Co., Dover, N. H.—411
Waldron Corp., John, New Brunswick, N. J. —423

MACHINES, ROLL WRAPPING

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Automat Molding & Folding Co., Toledo, O.
Cartoning Machinery Corp., Newport, R. I. —377
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
Package Machinery Co., Springfield, Mass. —398-399
Peters Machinery Co., Chicago, Ill.—381
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379

MACHINES, SEMI-LIQUID FILLING

American Machine & Foundry Co., New York, N. Y.—378-379
Colton Co., Arthur, Detroit, Mich.—395
Elgin Manufacturing Co., Elgin, Ill.
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
Horix Mfg. Co., Pittsburgh, Pa.—375
Kiefer Machine Co., Karl, Cincinnati, O.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
U. S. Bottlers Machinery Co., Chicago, Ill.—341

MACHINES, SPECIAL PACKAGING PRODUCTION

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Arenco Machine Co., Inc., New York, N. Y. —361
Cartoning Machinery Corp., Newport, R. I. —377
Colton Co., Arthur, Detroit, Mich.—395
Dexter Folder Co., New York, N. Y.—441-446
Ferguson Co., J. L., Joliet, Ill.—397
Filler Machine Co., Inc., Philadelphia, Pa.—347
General Food Package Equipment Corp., Benton Harbor, Mich.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Knowlton Co., M. D., Rochester, N. Y.—371
Meisel Press Mfg. Co., Boston, Mass.—413
New Jersey Machine Corp., Hoboken, N. J. —372-373
Package Machinery Co., Springfield, Mass. —398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Printcote Co., The, New York, N. Y.—418-419
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Saranac Automatic Machine Corp., Benton Harbor, Mich.—453
Smithe Machine Co., Inc., F. L., New York, N. Y—349
Special Production Machines, Inc. (Div. Pneumatic Scale Corp., Ltd.), Norfolk Downs Sta., Quincy, Mass.—383
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Newtonville, Mass.—338-339
U. P. M. Kidder Press Co., Dover, N. H.—411
U. S. Bottlers Machinery Co., Chicago, Ill.—341
Waldron Corp., John, New Brunswick, N. J. —423

MACHINES, TABLET COUNTING, FILLING, PACKAGING

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Cartoning Machinery Corp., Newport, R. I. —377
Colton Co., Arthur, Detroit, Mich.—395
Ivers-Lee Co., The, Newark, N. J.—367
Modern Machine Shop, The, Danville, Ill.
New Jersey Machine Corp., Hoboken, N. J. —372-373
Package Machinery Co., Springfield, Mass. —398-399
Redington Co., F. B., Chicago, Ill.
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Transparent Wrap Machine Corp., New York, N. Y.—357

MACHINES, TABLET WRAPPING

American Machine & Foundry Co., New York, N. Y.—378-379
Cartoning Machinery Corp., Newport, R. I. —377
Colton Co., Arthur, Detroit, Mich.—395
Ivers-Lee Co., The, Newark, N. J.—367
Modern Machine Shop, The, Danville, Ill.
New Jersey Machine Corp., Hoboken, N. J. —372-373

Package Machinery Co., Springfield, Mass.—398-399
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379

MACHINES, TEA BALL AND TEA BAG, AUTOMATIC

Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383

MACHINES, TIGHT WRAPPING (For Carton Shells)

American Machine & Foundry Co., New York, N. Y.—378-379
Package Machinery Co., Springfield, Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd., Gainsborough, England.—378-379
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401

MACHINES, TRANSMISSION (Variable Speed)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Engineering Co., Philadelphia, Pa.
Lewellen Mfg. Co., Columbus, Ind.
Link Belt Co., Chicago, Ill.
New Departure Mfg. Co., Bristol, Conn.
Reeves Pulley Co., Columbus, Ind.
Sterling Electric Motors, Inc., Los Angeles, Cal.

MACHINES, TUBE CUTTERS (For Fibre Tubes or Cans)

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Beck Machine Co., Chas., Philadelphia, Pa.—385
Knowlton Co., M. D., Rochester, N. Y.—371

MACHINES, VACUUM BOTTLE FILLING

Alsop Engineering & Mfg. Co., New York, N. Y.
Crown Cork & Seal Co., Baltimore, Md.—239
Elgin Manufacturing Co., Elgin, Ill.
Ertel Engineering Co., New York, N. Y.
Filler Machine Co., Philadelphia, Pa.—347
Horix Mfg. Co., Pittsburgh, Pa.—375
Kiefer Machine Co., Karl, Cincinnati, O.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Scientific Filter Co., New York, N. Y.
U. S. Bottlers Machinery Co., Chicago, Ill.—341

MACHINES, WIRE STITCHING

Acme Staple Co., Camden, N. J.—437
Bostitch, Inc., E. Greenwich, R. I.—331
Dexter Folder Co., New York, N. Y.—441-446
Heller Co., Inc., Cleveland, O.—459
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Morrison Co., J. L., Niagara Falls, N. Y.
Saranac Machine Co., Benton Harbor, Mich.—453

MACHINES, WIRE STAPLING

Ace Fastener Corp., Chicago, Ill.
Acme Staple Co., Camden, N. J.—437
Bostitch, Inc., E. Greenwich, R. I.—331
Bates Mfg. Co., The, Orange, N. J.
Crofoot Co., J. D., Chicago, Ill.
Dexter Folder Co., New York, N. Y.—441-446
Diagraph Stencil Machine Co., St. Louis, Mo.
Heller Co., The, Cleveland, Ohio—459
Hotchkiss Sales Co., Norwalk, Conn.
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Markwell & Co., New York, N. Y.
Neva-Clog Products, Inc., Bridgeport, Conn.
Paslode Co., Chicago, Ill.
Saranac Machine Co., Benton Harbor, Mich.—453

MACHINES, WRAPPING (Bottle, Jar, Can)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Burt Machine Co., Baltimore, Md.—389
Ivers-Lee Co., The, Newark, N. J.—367
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
Package Machinery Co., Springfield, Mass.—398-399
Redington Co., F. B., Chicago, Ill.

MACHINES, WRAPPING (Bread and Cake)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Baker-Perkins Co., Saginaw, Mich.
Battle Creek Wrapping Machine Co., Battle Creek, Mich.—393
Ferguson Co., J. L., Joliet, Ill.—397
Hayssen Mfg. Co., Sheboygan, Wis.
Ivers-Lee Co., The, Newark, N. J.—367
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
National Bread Wrapping Co., Springfield, Mass.
Package Machinery Co., Springfield, Mass.—398-399
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379

MACHINES, WRAPPING (Butter)

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Automat Molding & Folding Co., The, Toledo, O.
Battle Creek Wrapping Machine Co., Battle Creek, Mich.—393
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Miller Wrapping & Sealing Machine Co., Chicago, Ill.—337
Morris Packaging Equipment Co., Toledo, O.
Package Machinery Co., Springfield, Mass.—398-399
Redington Co., F. B., Chicago, Ill.

MACHINES, WRAPPING (Cigar)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Arenco Machine Co., Inc., New York, N. Y.—361
Colton Co., Arthur, Detroit, Mich.—395
Consolidated Lithographing Corp., Brooklyn, N. Y.
Package Machinery Co., Springfield, Mass.—398-399

MACHINES, WRAPPING (Photo-Electric Cell for Spot Register)

Battle Creek Wrapping Machine Co., Battle Creek, Mich.—393
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Package Machinery Co., Springfield, Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Redington Co., F. B., Chicago, Ill.
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401

MACHINES, WRAPPING (Transparent Cellulose, Glassine, Waxed Paper, etc.)

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Arenco Machine Co., Inc., New York, N. Y.—361
Battle Creek Wrapping Machine Co., Battle Creek, Mich.—393
Cartoning Machinery Corp., Newport, R. I.—377
Ferguson Co., J. L., Joliet, Ill.—397
Hayssen Mfg. Co., Sheboygan, Wis.
Ivers-Lee Co., The, Newark, N. J.—367
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Miller Wrapping & Sealing Machine Co., The, Chicago, Ill.—337
National Packaging Machinery Co., Newtonville, Mass.—338-339
Package Machinery Co., Springfield, Mass.—398-399
Peters Machinery Co., Chicago, Ill.—381
Redington Co., F. B., Chicago, Ill.
Rose Bros. (Gainsborough), Ltd. Gainsborough, England—378-379
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
Transparent Wrap Machine Corp., New York, N. Y.—357
Wrap-Ade Machine Co., Inc., Newark, N. J.—391

MEDICINE DISPENSERS

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Federal Glass Co., Columbus, O.—231
Kimble Glass Co., Vineland, N. J.—233
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.
Scovill Mfg. Co., Waterbury, Conn.
Standard Specialty & Tube Co., New Brighton, Pa.—211
Tyer Rubber Co., Andover, Mass.

METAL DISPLAYS AND FIXTURES (Decorated and Plain)

American Can Co., New York, N. Y.
Doehler Die Casting Co., Toledo, O.
Farrington Mfg. Co., Boston, Mass.
Heekin Can Co., Cincinnati, O.
Majestic Metal Specialties, Inc., New York, N. Y.
National Can Co., Inc., New York, N. Y.—193
Nelke Sign Mfg. Co., Inc., New York, N. Y.
Owens-Illinois Can Co., Toledo, O.—198-199
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Robertson Steel & Iron Co., W. F., Springfield, O.

Sommers Bros. Appliance Co., Saginaw, Mich.
Union Steel Products Co., Albion, Mich.
United Steel & Wire Co., Inc., Battle Creek, Mich.
Washburn Co., The, Rockford, Ill.—315

METAL INLAYS

Aluminum Co. of America, Pittsburgh, Pa.—209
Probar Corporation, Orange, N. J.

METALS, CORROSION PROOF (Stainless Steels, Nickel, Alloys, etc.)

Acme Steel Co., Chicago, Ill.—431
Allegheny Steel Co., Brackenridge, Pa.
Aluminum Co. of America, Pittsburgh, Pa.—209
American Steel & Wire Co., Chicago, Ill.
Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Colonial Steel Co., Pittsburgh, Pa.
Duraloy Co., New Cumberland, W. Va.
Durium Co., Dayton, Ohio
General Alloys Co., Boston, Mass.
Ingersoll Steel & Disc Co., Chicago, Ill.
International Nickel Co., New York, N. Y.
Jessup, Inc., Wm. & Sons, New York, N. Y.
Ludlum Steel Co., Watervliet, N. Y.
Republic Steel Corp., Youngstown, O.

MOLDERS, CUSTOM

Accurate Molding Corp., Brooklyn, N. Y.
Ackerman Rubber & Plastic Molding Co., Cleveland, Ohio
Alden Products Co., Brockton, Mass.
American Hard Rubber Co., New York, N. Y.
American Insulator Corp., New Freedom, Pa.
Anchor Cap and Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Associated Attleboro Mfgrs., Inc., Attleboro, Mass.
Auburn Button Works, Inc., Auburn, N. Y.—283
Bakelite Corp., New York, N. Y.—287
Bay State Molding Co., Boston, Mass.
Berkander, Geo. F., Providence, R. I.
Boontqn Molding Co., Boonton, N. J.—281
Boston Molded Products Co., Boston, Mass.
Breez Corp., Newark, N. J.
Bryant, Electric Co., Hemco Plastics Division, Bridgeport, Conn.
Butterfield, Inc., T. F., Naugatuck, Conn.
Carbide & Carbon Chemicals Corp., New York, N. Y.
Celluloid Corp., New York, N. Y.—154
Chicago Molded Products Corp., Chicago, Ill.—289
Cincinnati Molding Co., Cincinnati, Ohio
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Consolidated Molded Products Corp., Scranton, Pa.
Cutler-Hammer, Inc., Milwaukee, Wis.
Davies Company, Harry, Chicago, Illinois
Dayton Insulating Molding Co., Dayton, Ohio
Diemolding Corp., Canastota, N. Y.—275
Eclipse Moulded Products Co., Milwaukee, Wis.
Economy Fuse & Mfg. Co., Chicago, Ill.
Emeloid Co., Inc., Arlington, N. J.—121
Erie Resistor Corp., Erie, Pa.
General Electric Co., Plastics Dept., Bridgeport, Conn.—Insert 272-273
General Industries Co., Elyria, Ohio
General Insulate Co., Inc., Brooklyn, N. Y.
General Molded Products, Inc., Brooklyn, N. Y.
General Molding Co., Philadelphia, Pa.
General Plastics, Inc., North Tonawanda, N. Y.—291
General Products Corp., Union Springs, N. Y.
Gorham Company, Plastics Division, Providence, R. I.
Halen Mfg. Co., Ltd., Harry W., Los Angeles, Calif.
Hyde, A. L., Grenloch, N. J.
Imperial Molded Products Corp., Chicago, Ill.
Insulation Mfg. Co., Inc., Brooklyn, N. Y.
Kellogg Switchboard & Supply Co., Chicago, Ill.
Keystone Specialty Co., Cleveland, Ohio
Kuhn & Jacobs Moulding & Tool Co., Trenton, N. J.
Kurz-Kasch Company, Dayton, Ohio—Insert 288-289
Liberty Molding Works, Attleboro, Mass.
Los Angeles Molding Co., Los Angeles, Calif.
Mack Molding Co., Inc., Wayne, N. J.—293
Mica, Inc., Mt. Vernon, N. Y.
Molded Insulation Co., Philadelphia, Pa.
Molding Corp. of America, Providence, R. I.
Mundet Cork Corp., Brooklyn, N. Y.—251
Niagara Insul-Bake Specialty Co., Inc., Albany, N. Y.
Northern Industrial Chemical Co., Boston, Mass.
Norton Laboratories, Inc., Lockport, N. Y.
Oris Mfg. Co., Inc., Thomaston, Conn.
Owens-Illinois Glass Co., Toledo, O.—242-245
Plano Molding & Mfg. Co., Plano, Ill.
Plastic Merchandisers, Inc., New York, N. Y.
Plastic Molding Co., Sandy Hook, Conn.
Plastic Molding Corp., Cincinnati, Ohio
Recto Molded Products, Inc., Cincinnati, Ohio
Remler Co., Ltd., San Francisco, Calif.
Reynolds Spring Co., Molded Plastics Division, Jackson, Mich.
Richardson Company, Cincinnati, Ohio
Royal Molding Co., Providence, R. I.
Seamless Rubber Co., New Haven, Conn.
Shaw Insulator Co., Irvington, N. J.
Specialty Insulation Co., Hoosick Falls, N. Y.
Stokes Rubber Co., Jos., Trenton, N. J.
Synthetic Molded Products, Inc., Stonington, Conn.
Tech-Art Plastics Co., Long Island City, N. Y.
Terkelsen Machine Co., Boston, Mass.
Trade Molding Co., Cleveland, Ohio
Union Insulating Co., Parkersburg, W. Va.
Universal Molding Co., San Francisco, Calif.
Waterbury Button Co., Waterbury, Conn.—285
Watertown Mfg. Co., Watertown, Conn.
Wheeling Stamping Co., Wheeling, W. Va.

MOLDING COMPOUNDS, ACRYLIC RESINS

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Rohm & Haas Co., Philadelphia, Pa.

MOLDING COMPOUNDS, CAST PHENOL

American Catalin Corp., New York, N. Y.—295
Fiberloid Corp., Indian Orchard, Mass.
Marblette Corp., The, Long Island City, N. Y.

MOLDING COMPOUNDS, CELLULOSE ACETATE

Celluloid Corp., New York, N. Y.—154
Fiberloid Corp., Indian Orchard, Mass.
Tennessee Eastman Corp., Kingsport, Tenn.

MOLDING COMPOUNDS, PHENOL FORMALDEHYDE

Bakelite Corp., New York, N. Y.—287
Commercial Solvents Corp., New York, N. Y.—Insert 404-405
Dorite Plastics, Philadelphia, Pa.
General Electric Co., Bridgeport, Conn.—Insert 272-273
General Plastics, Inc., North Tonawanda, N. Y.—291
Makalot Corp., Boston, Mass.
Reilly Tar & Chemical Corp., Indianapolis, Ind.—277
Resinox Corp., New York, N. Y.—278-279

MOLDING COMPOUNDS, PHENOL FURFURAL

Dorite Plastics, Philadelphia, Pa.

MOLDING COMPOUNDS, STYRENE

U. S. Rubber Products, Inc., New York, N. Y.

MOLDING COMPOUNDS, UREA FORMALDEHYDE

American Cyanamid Co., Beetle Products Division, New York, N. Y.
Plaskon Co., Inc., Toledo, Ohio
Resinous Products & Chemical Co., Philadelphia, Pa.

MOLDING COMPOUNDS, VINYL ACETATE

Carbide & Carbon Chemicals Corp., New York, N. Y.

PACKAGE DESIGN CONSULTANTS (Independent Organizations)

Arens, Egmont, New York, N. Y.
Allen, Arthur S., New York, N. Y.
Barnes & Reinecke, Chicago, Ill.
Bryan, Goode, Greenville, S. C.
Clarke, Rene, New York, N. Y.
Cole, Clarence, New York, N. Y.
Cooper & Shower, Detroit, Mich.
Cruze, Charles, Los Angeles, Cal.
Dreyfuss, Henry, New York, N. Y.
Dryden, Helen, New York, N. Y.
Epstein, Alvin, Baltimore, Md.
Farrell, Harry H., Chicago, Ill.
Frederico, Joseph B., Niagara Falls, N. Y.
Furman-Gold Co., The, New York, N. Y.
Grover, Frederic S., Rochester, N. Y.
Guild, Lurelle V. A., New York, N. Y.
Hall, Frances Cushing, New York, N. Y.
Hasinger, D. B., New York, N. Y.
Heile & Pike, Chicago, Ill.
Hormung, Clarence P., New York, N. Y.
Ianelli Studios, Park Ridge, Chicago, Ill.
Jensen, Gustav B., New York, N. Y.
Lapin, Carl, New York, N. Y.
Larison, Ruth Hooper, New York, N. Y.
Leonard, Robert C., New York, N. Y.
Lewis, Benjamin, New York, N. Y.
Lucas, Mildred C., New York, N. Y.
McDavid, D. R., Chicago, Ill.
Martial, Jacques Associates, New York, N. Y.
Maurer, S. A., New York, N. Y.
Muller, Hans, New York, N. Y.
Nash, Ben, New York, N. Y.
Obeck, Ferdinand J., Camden, N. J.
Picken, Mary Brooks, New York, N. Y.
Ressinger, Paul, Chicago, Ill.
Scheele, Edwin H., New York, N. Y.
Sheldon, Roy, New York, N. Y.
Sinel, Joseph, New York, N. Y.
Switzer, George, New York, N. Y.
Teague, Walter D., New York, N. Y.
Thelander, Clement, Rockford, Ill.
Tower Studio, Chicago, Ill.

Ullman, Martin, New York, N. Y.
Van Doren & Associates, Harold, Toledo, O.
Welden, Archibald W., New York, N. Y.
Weeks, Wentworth, New York, N. Y.
Wheeler, Leonard A., Los Angeles, Cal.

PACKAGE ENVELOPES

See Envelopes

PACKAGE INSERTS

See Lithographers

PACKAGE WRAPS

See various Paper headings and Lithographers

PADS, ABSORBENT PACKING

Kimberly-Clark Corp., Chicago., Ill.—454-455
Owens-Illinois Glass Co., Toledo, O.—242-245
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463

PAILS, FIBRE

Bloomer Bros. Co., Newark, N. Y.
Cleveland Container Co., Cleveland, O.—215
Container Corp. of America, Chicago, Ill.
Iowa Fibre Box Co., Keokuk, Iowa
Lily Tulip Cup Corp., New York, N. Y.
Marathon Paper Mills Co., Rothschild, Wis.
Master Package Corp., Owen, Wis.
Menasha Products Co., The, Menasha, Wis.
National Folding Box Co., New Haven, Conn.
Sutherland Paper Co., Kalamazoo, Mich.

PAPER, BOX LACE

American Lace Paper Co., Milwaukee, Wis.
Lebanon Paper Box Co., Lebanon, Pa.
Matthias Paper Corp., Philadelphia, Pa.
Milwaukee Lace Paper Co., Milwaukee, Wis.
Sayford Co., Inc., Frank M., Brooklyn, N. Y.
U. S. Lace Paper Works, Brooklyn, N. Y.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, CHEVIOT

Bradner Smith & Co., Chicago, Ill.—183
Chicago Paper Co., Chicago, Ill.
Cranmer Co., Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kimberly-Clark Corp., Neenah, Wis.—454-455
Kupfer Bros. Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pejepscot Paper Co., New York, N. Y.
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Walther & Co., Inc., Brooklyn, N. Y.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, CORK

Aldine Paper Co., New York, N. Y.
Armstrong Cork & Products Co., Closure Division, Lancaster, Pa.—228-229
Dodge Cork Co., Inc., Lancaster, Pa.—227
Matthias Paper Corp., Philadelphia, Pa.
Mundet Cork Corp., Brooklyn, N. Y.—251
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, CREPE

American Tissue Mills, Holyoke, Mass.
Dennison Mfg. Co., Framingham, Mass.—67
Reyburn Mfg. Co., The, Philadelphia, Pa.
Tuttle Press Co., The, Appleton, Wis.

PAPER, EMBOSSED

Aldine Paper Co., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge - Marvellum Co., Holyoke, Mass.—Insert 154-155
Birge & Son Co., M. H., Buffalo, N. Y.
Bradner Smith & Co., Chicago, Ill.—183
Chicago Printed String Co., Chicago, Ill.—151
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Decatone Products, Fitchburg, Mass.
Dejonge & Co., Louis, New York, N. Y.
District of Columbia Paper Mfg. Co., Washington, D. C.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Japan Paper Company, New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kimberly-Clark Corp., Neenah, Wis.—454-455
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Orchard Paper Co., St. Louis, Mo.
Orono Pulp & Paper Co., New York, N. Y.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paper City Mfg. Co., Inc., Holyoke, Mass.—Insert 174-175
Racquette River Paper Co., The, Potsdam, N. Y.
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Sweetnam Inc., Geo. H., Cambridge, Mass.—463
Tamm & Co., New York, N. Y.
Tuttle Press Co., The, Appleton, Wis.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, EMBOSSED METAL

Aldine Paper Co., New York, N. Y.
Aluminum Co. of America, Pittsburgh, Pa.—209
American Foil Corp., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge - Marvellum Co., Holyoke, Mass.—Insert 154-155
Bradner Smith & Co., Chicago, Ill.—183
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Japan Paper Company, New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
Miller, Inc., Bert C., New York, N. Y.
New England Card & Paper Co., Springfield, Mass.
Orchard Paper Co., St. Louis, Mo.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pauli Corp., Karl, New York, N. Y.
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Reynolds Metals Co., New York, N. Y.—Insert 156-157
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Shulman Co., Louis, New York, N. Y.
Springfield Glazed Paper Co., Springfield, Mass.
Standard Rolling Mills, Inc., Brooklyn, N. Y.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N.Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, EXCELSIOR

Bennington Wax Paper Co., Bennington, Vt.—167
Crystal Tissue Co., The, Middletown, O.
Daniels Mfg. Co., Rhinelander, Wis.

Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
Traver Corp., Chicago, Ill.

PAPER, FANCY, PRINTED

Aldine Paper Co., New York, N. Y.
Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Birge & Son Co., M. H., Buffalo, N. Y.
Bradner Smith & Co., Chicago, Ill.—183
Chicago Printed String Co., Chicago, Ill.—151
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., Harry M., Boston, Mass.
Crystal Tissue Co., The, Middletown, O.
Datz & Son, A. S., Philadelphia, Pa.
Decotone Products, Fitchburg, Mass.
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
District of Columbia Paper Mfg. Co., Washington, D. C.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Hinkson Paper Co., Springfield, Mass.—158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Japan Paper Company, New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kimberly-Clark Corp., Neenah, Wis.—454-455
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Springfield, Mass.
Orchard Paper Co., St. Louis, Mo.
Paper Affiliates Co., Inc., New York, N Y.—Insert 148-149
Racquette River Paper Co., The, Potsdam, N. Y.
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER FINISHERS (Varnish and Lacquer)

Acme Gumming & Varnishing Co., Boston, Mass.
American Gumming Co., Boston, Mass.
American Finishing Co., Chicago, Ill.
American Label Cutting Co., New York, N. Y.
Bach, M., New York, N. Y.
Chasen & Co., Alex, Philadelphia, Pa.
Christie, Hugh J., New York, N. Y.
Crawford Co., John W., New York, N. Y.
Elliott & Mallery, Philadelphia, Pa.
Fell Bros., Philadelphia, Pa.
Kellner, J., New York, N. Y.
Lithographers Finishing Co., New York, N. Y.
Lowery & Schwartz, Inc., New York, N. Y.
McCauley Co., Inc., G. H., New York, N. Y.
McCoy Label Co., San Francisco, Cal.
McKenna & Phelps, Inc., New York, N. Y.
Modica Syndicate Press, Chicago, Ill.
North River Labeling Co., New York, N. Y.
O'Connor, Edw. M., New York, N. Y.
Perfect Finishing Co., Inc., New York, N. Y.
Philadelphia Label Cutting Co., Philadelphia, Pa.
Polachek, Z. H., New York, N. Y.
Schneider Bros. Co., Philadelphia, Pa.
Standard Finishing Co., Inc., New York, N. Y.
Superior Label Finishing Co., New York, N. Y.
Tablet & Ticket Co., The, San Francisco, Cal.
U. S. Finishing & Mfg. Co., Chicago, Ill.
Universal Labeling Co., New York, N. Y.
Walley Co., C. P., New York, N. Y.
Wiener Bros., Inc., New York, N. Y.

PAPER, FLINT GLAZED

Bradner Smith & Co., Chicago, Ill.—183
Cranmer Co., Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Keller-Dorian Paper Co., The, New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Metz Paper Co., Pawtucket, R. I.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paper City Mfg. Co., Holyoke, Mass.—Insert 174-175
Ray-O-Nite Coated Paper Mills, Inc., Rochester, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Springfield Glazed Paper Co., Springfield, Mass.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.
Wyomissing Glazed Paper Co., Reading, Pa.—Insert 172-173

PAPER, FRICTION GLAZED

Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Bradner Smith & Co., Chicago, Ill.—183
Cranmer Co., Harry M., Boston, Mass.
Collins Mfg. Co., A. M., Philadelphia, Pa.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Keller-Dorian Paper Co., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paper City Mfg. Co., Holyoke, Mass.—Insert 174-175
Ray-O-Nite Coated Paper Mills, Inc., Rochester, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Springfield Glazed Paper Co., Springfield, Mass.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.
Wyomissing Glazed Paper Co., Reading, Pa.—Insert 172-173

PAPER, GELATINE

Bendix Paper Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Stahl Co., G. S., Philadelphia, Pa.

PAPER, GLASSINE (Plain and Embossed)

Aldine Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Central Waxed Paper Co., Chicago, Ill.
Daniels Manufacturing Co., Rhinelander, Wis.
Deerfield Glassine Co., Monroe Bridge, Mass.
Glassine Paper Co., West Conshohocken, Pa.
Hamersley Mfg. Co., Inc., Garfield, N. J.
Hartford City Paper Co., Hartford City, Ind.
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Coated & Printed Paper Co., New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Kupfer Bros. Co., New York, N. Y.
McDowell Paper Mills, Philadelphia, Pa.
Marvellum Co., Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Newark Paraffine & Parchment Paper Co., Newark, N. J.

Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, GREASEPROOF

Aldine Paper Co., New York, N. Y.
American Tissue Mills, Holyoke, Mass.
Bennington Wax Paper Co., Bennington, Vt.—167
Celluloid Corp., New York, N. Y.—154
Central Waxed Paper Co., Chicago, Ill.
Daniels Manufacturing Co., Rhinelander, Wis.
Deerfield Glassine Co., Monroe Bridge, Mass.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Eastman Kodak Co., Rochester, N. Y.
Glassine Paper Co., West Conshohocken, Pa.
Hamersley Mfg. Co., Inc., Garfield, N. J.
Hartford City Paper Co., Hartford City, Ind.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Kupfer Bros. Co., New York, N. Y.
McDowell Paper Mills, Philadelphia, Pa.
Marvellum Co., Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Menasha Products Co., Menasha, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Newark Paraffine & Parchment Paper Co., Newark, N. J.
Paterson Parchment Paper Co., Bristol, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
West Carrollton Parchment Co., West Carrollton, O.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165

PAPER, GUMMED

Artcote Papers, Inc., Irvington, N. J.
Central Paper Co., Menasha, Wis.
Chicago Gummed Tape Co., Chicago, Ill.
Dennison Mfg. Co., Framingham, Mass.—67
Edgewater Paper Co., Menasha, Wis.
Gummed Products Co., Troy, O.
Gummed Tape & Devices Co., Brooklyn, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Mid-States Gummed Paper Co., Chicago, Ill.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paper Manufacturers Co., Inc., Philadelphia, Pa.
Pauli Corp., Karl, New York, N. Y.
Rexford Paper Co., Milwaukee, Wis.
Whiting-Patterson Co., Inc., Philadelphia, Pa.

PAPER, IMITATION LEATHER

Aldine Paper Co., New York, N. Y.
Beveridge-Marvellum Co., The, Holyoke, Mass.—Insert 154-155
Collins Mfg. Co., A. M., Philadelphia, Pa.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holliston Mills, Inc., Norwood, Mass.—175
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
New England Card & Paper Co., Inc., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pyrotex Leather Co., Leominster, Mass.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Schulman Co., Louis, New York, N. Y.
Textileather Corp., Toledo, O.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Company, Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, KRAFT

Bogalusa Paper Co., Bogalusa, La.
Brown Co., Portland, Me.
Chippewa Paper Products, Inc., Chicago, Ill.
Crown-Willamette Paper Co., San Francisco, Cal.
Gaylord, Inc., Robert, St. Louis, Mo.
Hollingsworth & Whitney Co., Boston, Mass.
International Paper Co., New York, N. Y.
Mosinee Paper Mills Co., Mosinee, Wis.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paterson Parchment Paper Co., Bristol, Pa.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Stone & Forsyth Co., Boston, Mass.
Thilmany Pulp & Paper Co., Kaukauna, Wis.
Tomahawk Paper Co., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, KRAFT-WAXED

Chippewa Paper Products, Inc., Chicago, Ill.
Continental Bag & Paper Corp., New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Menasha Products Co., The, Menasha, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paterson Parchment Paper Co., Bristol, Pa.
Traver Corp., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.

PAPER, LITHOGRAPHED, FANCY

Addison Litho. Co., Rochester, N. Y.
American Colortype Co., New York, N. Y.
Central Litho. Co., Cleveland, O.
Consolidated Lithographing Corp., Brooklyn, N. Y.
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Michigan Litho. Co., Grand Rapids, Mich.
Schmidt Litho. Co., Theo. A., Chicago, Ill.
Schmitt & Co., Inc., Geo., Brooklyn, N. Y.
Tamm & Co., New York, N. Y.
Trautmann-Bailey & Blampey, New York, N. Y.
U. S. Printing & Litho. Co., The, Cincinnati, O.—Insert 268-269 and 304-305
Welsh Paper Co., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, METALLIC COATED (Plain and Embossed)

Aldine Paper Co., New York, N. Y.
Aluminum Co. of America, Pittsburgh, Pa.—209
American Foil Corp., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Beekman Paper & Card Co., New York, N. Y.
Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Birge & Sons Co., M. H., Buffalo, N. Y.
Bradner Smith & Co., Chicago, Ill.—183
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., The Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Hampden Glazed Paper & Card Co., Holyoke Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Japan Paper Company, New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Metz Paper Co., Pawtucket, R. I.
Middlesex Products Corp., Cambridge, Mass.—Insert 180-181
Miller, Inc., Bert C., New York, N. Y.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paterson Parchment Paper Co., Bristol, Pa.
Pauli Corp., Karl, New York, N. Y.

Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Springfield, Glazed Paper Co., Springfield, Mass.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, PARCHMENT

Aldine Paper Co., New York, N. Y.
Hamersley Mfg. Co., Inc., Garfield, N. J.
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Japan Paper Company, New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Marvellum Co., Holyoke, Mass.—Insert 176-177
Paterson Parchment Paper Co., Bristol, Pa.
Riegel Paper Corp., New York, N. Y. (imitation)—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
West Carrollton Parchment Co., West Carrollton, O.

PAPER, PARCHMENT VEGETABLE

Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Paterson Parchment Paper Co., Bristol, Pa.
West Carrollton Parchment Co., West Carrollton, O.

PAPER, PLATED

Aldine Paper Co., New York, N. Y.
Beveridge - Marvellum Co., Holyoke, Mass.--Insert 154-155
Bradner Smith & Co., Chicago, Ill.—183
Chicago Paper Co., Chicago, Ill.
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., The Harry M., Boston, Mass.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Keller-Dorian Paper Co., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Corp., Cambridge, Mass.—180-181
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Paper City Mfg. Co., Holyoke, Mass.—Insert 174-175
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Schulman, Louis, New York, N. Y.
Springfield Glazed Paper Co., Springfield, Mass.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.
Wyomissing Glazed Paper Co., Reading, Pa.—Insert 172-173

PAPER, PYROXYLIN COATED

Aldine Paper Co., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Beveridge - Marvellum Co., Holyoke, Mass.—Insert 154-155
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Egyptian Lacquer Mfg. Co., The, New York, N. Y.—Insert facing 408
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holliston Mills, Inc., Norwood, Mass.—175
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Matthias Paper Corp., Philadelphia, Pa.
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Metz Paper Co., Pawtucket, R. I.
Miller Inc., Bert C., New York, N. Y.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pauli Corp, Karl, New York, N. Y.
Pyrotex Leather Co., Leominster, Mass.
Ray-O-Nite Coated Paper Mills, Rochester, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Springfield Glazed Paper Co., Springfield, Mass.
United Cotton Products Corp., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, SHREDDED

Bennington Wax Paper Co., Bennington, Vt.—167
Crystal Tissue Co., The, Middletown, O.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463

PAPER, TISSUE

American Tissue Mills, Holyoke, Mass.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Chicago Printed String Co., Chicago, Ill.—151
Crystal Tissue Co., The, Middletown, O.
Dennison Mfg. Co., Framingham, Mass.—67
Dexter & Sons, Inc., C. H., Winsdor Locks, Conn.
Fort Howard Paper Co., Green Bay, Wis.
Marathon Paper Mills, Rothschild, Wis.
Tuttle Press Co., The, Appleton, Wis.

PAPER, TRADEMARK

Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., Inc., Harry M., Boston, Mass.
Decotone Products, Fitchburg, Mass.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Morart Paper Co., Holyoke, Mass.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Racquette River Paper Co., The, Potsdam, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Union Bag & Paper Co., New York, N. Y.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Westfield River Paper Co., Inc., Russell Mass.—Insert 164-165
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, TRANSPARENT CELLULOSE

See Cellulose, Transparent (Moisture and Grease-proof)
See Cellophane

PAPER, VELOUR (Plain, Printed and Embossed)

Aldine Paper Co., New York, N. Y.
Birge & Sons Co., M. H., Buffalo, N. Y.
District of Columbia Paper Co., Washington, D. C.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Matthias Paper Corp., Philadelphia, Pa.
Mosinee Paper Mills Co., Mosinee, Wis.—179
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pauli Corp., Karl, New York, N. Y.
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, VELOUR, SILK

Holyoke Coated & Printed Paper Co., New York, N. Y.
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Mosinee Paper Mills Co., Mosinee, Wis.—179
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, WATERPROOF (Fancy, Plain and Embossed)

Aldine Paper Co., New York, N. Y.
Artcote Papers, Inc., Irvington, N. J.
Bennington Wax Paper Co., Bennington, Vt.—167
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 154-155
Brown Co., Portland, Me.
Celluloid Corp., New York, N. Y.—154
Collins Mfg. Co., A. M., Philadelphia, Pa.
Cranmer Co., Harry M., Boston, Mass.
Dejonge & Co., Louis, New York, N. Y.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Eastman Kodak Co., Rochester, N. Y.
Fitchburg Paper Co., Fitchburg, Mass.
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Card & Paper Co., Springfield, Mass.—Insert 160-161
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Co., Cambridge, Mass.—Insert 180-181
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
New England Card & Paper Co., Inc., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Paper City Mfg. Co., Holyoke, Mass.—Insert 174-175
Pyrotex Leather Co., Leominster, Mass.
Racquette River Paper Co., The, Potsdam, N. Y.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Springfield Glazed Paper Co., Springfield, Mass.
Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241
Union Bag & Paper Corp., New York, N. Y.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Westfield River Paper Co., Inc., Russell, Mass.—Insert 164-165
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PAPER, WAXED

American Tissue Mills, Holyoke, Mass.
Bennington Wax Paper Co., Bennington, Vt.—167
Brown Co., Portland, Me.
Central Waxed Paper Co., Chicago, Ill.
Chippewa Paper Products, Inc., Chicago, Ill.
Crystal Tissue Co., The, Middletown, O.
Detroit Wax Paper Co., Detroit, Mich.
Dixie Wax Paper Co., Inc., Dallas, Texas
General Waxed Papers Co., Inc., Chicago, Ill.
Hamersley Mfg. Co., Inc., Garfield, N. J.
Henle Wax Paper Mfg. Co., Inc., The New York, N. Y.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Kuhmarker Waxed Paper Co., New York, N. Y.
Menasha Products Co., The, Menasha, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Newark Paraffine & Parchment Paper Co., Newark, N. J.
Ohio Wax Paper Co., Columbus, O.
Paterson Parchment Paper Co., Bristol, Pa.
Racquette River Paper Co., The, Potsdam, N. Y.
Rap-In-Wax Paper Co., St. Paul, Minn.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Specialty Paper Co., Dayton, O.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463
Waterproof Board & Paper Co., Cincinnati, O.
Waxed Products Co., Brooklyn, N. Y.

PAPER, WOOD VENEER (Imitation)

Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.
Japan Paper Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.
Middlesex Products Co., Cambridge, Mass.—Insert 180-181
Paper Affiliates Co., Inc., New York, N. Y.
Williams & Co., Chas. W., New York, N. Y.

PAPER, WRAPPING (Fancy Tissue)

Aldine Paper Co., New York, N. Y.
American Tissue Mills, Holyoke, Mass.
Bennington Wax Paper Co., Bennington, Vt.—167
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Birge & Sons Co., M. H., Buffalo, N. Y.
Bradner Smith & Co., Chicago, Ill.—183
Chicago Printed String Co., Chicago, Ill.—151
Cranmer Co., Harry M., Boston, Mass.
Crystal Tissue Co., The, Middletown, O.
Datz & Son, A. S., Philadelphia, Pa.
Dejonge & Co., Louis, New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Hampden Glazed Paper & Card Co., Holyoke, Mass.—Insert 166-167
Hazen Paper Co., Holyoke, Mass.—Insert 168-169
Hinkson Paper Co., Springfield, Mass.—Insert 158-159
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes and Hoffman, New York, N. Y.
Japan Paper Co., New York, N. Y.
Keller-Dorian Paper Co., Inc., New York, N. Y.
Kupfer Bros. Co., New York, N. Y.
McLaurin-Jones Co., Brookfield, Mass.—Insert 178-179
Marvellum Co., The, Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paterson Parchment Paper Co., Bristol, Pa.
Pauli Corp., Karl, New York, N. Y.
Racquette River Paper Co., Potsdam, N. Y.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Schulman Co., Louis, New York, N. Y.
Springfield Glazed Paper Co., Springfield, Mass.
Tuttle Press Co., The, Appleton, Wis.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Walther & Co., Inc., Brooklyn, N. Y.
Welsh Paper Co., Philadelphia, Pa.
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Williams & Co., Inc., Chas. W., New York, N. Y.

PASTES

See Adhesives

PRESSES, ALL-SIZE ROTARY

Chambon Corp., Garfield, N. J.—425
Claybourn Corp., Milwaukee, Wis.
Colton Co., Arthur, Detroit, Mich.—395
Marconetti Inc., A. E., New York, N. Y.—414-415
Meisel Press Mfg. Co., Boston, Mass.—413
New Jersey Machine Corp., Hoboken, N. J.—372-373
Package Machinery Co., Springfield, Mass.—398-399
Printcote Co., The, New York, N. Y.—418-419
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
U. P. M. Kidder Press Co., Dover, N. H.—411

PRESSES, MULTI-COLOR PRINTING (Cartons, Labels, Wraps)

Chambon Corp., Garfield, N. J.—425
Claybourn Corp., Milwaukee, Wis.
Marconetti, Inc., A. E., New York, N. Y.—414-415
Meisel Press Mfg. Co., Boston, Mass.—413
Package Machinery Co., Springfield, Mass.—398-399
Printcote Co., The, New York, N. Y.—418-419
Rutherford Machinery Co., New York, N. Y.
U. P. M. Kidder Press Co., Dover, N. H.—411
Waldron Corp., John, New Brunswick, N. J.—423

PRESSES, PRINTING (Transparent Cellulose)

Chambon Corp., Garfield, N. J.—425
Claybourn Corp., Milwaukee, Wis.
Meisel Press Mfg. Co., Boston, Mass.—413
Printcote Co., The, New York, N. Y.—418-419
U. P. M. Kidder Press Co., Dover, N. H.—411

PRINTING ROLLERS (All Over Design)

Bingham Bros. Co., New York, N. Y.—467
Chambon Corp., Garfield, N. J.—425

Dornbusch Agency, Inc., The, New York, N. Y.—343
Marconetti, Inc., A. E., New York, N. Y.—414-415

RAISED PRINTING

Barnard Mfg. Co., Paul J., Racine, Wis.
Bennington Wax Paper Co., Bennington, Vt.—167
Dennison Mfg. Co., Framingham, Mass.—67
Hanograf Corp., New York, N. Y.
Wood, Nathan & Virkus Co., Inc., New York, N. Y. (Virkotype Process)—Insert 424-425

RIBBONS, CELLULOSE

Crystal Tissue Co., The, Middletown, O.
Dennison Mfg. Co., Framingham, Mass.—67
Du-Tone Ribbon Corp., New York, N. Y.—163
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., Inc., New York, N. Y.—159
General Ribbon Mills, Catasauqua, Pa.
Hy-Sil Mfg. Co., Brooklyn, N. Y.
Lustro Ribbon Co., Inc., Chicago, Ill.
Stark Bros. Ribbon Co., New York, N. Y.

RIBBONS AND TIES (Plain and Decorative)

Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Chicago Printed String Co., Chicago, Ill.—151
Crystal Tissue Co., The, Middletown, O.
Dennison Mfg. Co., Framingham, Mass.—67
Du-Tone Ribbon Corp., New York, N. Y.—163
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., Inc., New York, N. Y.—159
Gerstein Bros. Mfg. Corp., Brooklyn, N. Y.
Hy-Sil Mfg. Co., Revere, Mass.
Japan Paper Co., New York, N. Y.
Milwaukee Printed String Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Stark Bros. Ribbon Co., New York, N. Y.
Taft Co., R. C., Chicago, Ill.
Thayer Mfg. Co., Norwich, Conn.
Walser Mfg. Co., Inc., Clifton, N. J.
W-E-R- Ribbon Corp., New York, N. Y.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

ROLL LEAF (Stamping Foil)

Coughlin Manufacturing Co., New York, N. Y.
Dejonge & Co., Louis, New York, N. Y.
Diamond Decorative Leaf Co., Staten Island, N. Y.
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Hastings & Co., Philadelphia, Pa.
Holliston Mills, Inc., The, Norwood, Mass.—175
Kemp Co., W. H., New York, N. Y.
Markem Machine Co., Keene, N. H.
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Pauli Corp., Karl, New York, N. Y.
Peacock Roll Leaf Co., Elmhurst, L. I., N. Y.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Swift & Sons, Inc., M., Hartford, Conn.

ROLL LEAF STAMPING EQUIPMENT

Griffin Campbell, Hayes, Walsh, Inc., New York, N. Y.
Markem Machine Co., Keene, N. H.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Thomson National Press Co., Franklin, Mass.

SAUSAGE CASINGS (Artificial transparent)

Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241

SCALES, AUTOMATIC CHECK WEIGHERS

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Elder & Robinson Co., Chicago, Ill.
Exact Weight Scale Co., Columbus, O.
Goat Co., Inc., The Fred, Brooklyn, N. Y.
International Business Machines Corp., New York, N. Y.
Jacobs Bros. Co., Inc., Brooklyn, N. Y.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Merrick Scale Mfg. Co., Passaic, N. J.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.

SCALES, AUTOMATIC WEIGHING, FILLING

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Automatic Scale Co., Inc., New York, N. Y.
Bostitch, Inc., E. Greenwich, R. I.—331
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Exact Weight Scale Co., Columbus, O.
Ferguson Co., J. L., Joliet, Ill.—397
Goat Co., Inc., The Fred, Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
National Packaging Machinery Co., Newtonville, Mass.—338-339
Package Machinery Co., Springfield, Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
Vol-U-meter Co., Inc., Brooklyn, N. Y.

SCALES, FREIGHT, EXPRESS

Fairbanks, Morse & Co., Chicago, Ill.
Howe Scale Co., Rutland, Vt.
Jacobs Bros. Co., Inc., Brooklyn, N. Y.
Kron Co., The, Bridgeport, Conn.
Toledo Scale Co., Toledo, O.
Turner Scale & Mfg. Co., Chicago, Ill.

SEALS, EMBOSSED

Aluminum Seal Co., New Kensington, Pa.—209
Attleboro Printing & Embossing Co., Attleboro, Mass.
Arkadia Paper Products Corp., New York, N. Y.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Chicago Printed String Co., Chicago, Ill.—151
Consolidated Lithographing Corp., Brooklyn, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Foxon Co., The, Providence, R. I.—Insert 266-267
French-Bray Printing Co., The, Baltimore, Md.
Grand Rapids Label Co., Grand Rapids, Mich.
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Horn, John M., New York, N. Y.
Hy-Sil Mfg. Co., Revere, Mass.
Kaumagraph Co., New York, N. Y.
Krause, Inc., Richard M., New York, N. Y.—Insert 270-271
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
May Co., The, J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
National Color Printing Co., Inc., The, Baltimore, Md.—265
Palm, Fechteler & Co., New York, N. Y.—267
Reyburn Mfg. Co., The, Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
St. Louis Sticker Co., St. Louis, Mo.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., Dayton, O.
Tablet and Ticket Co., The, Chicago, Ill.—263
Triangle Package Machinery Co., Chicago, Ill.—333
Wheeler-Van Label Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Wynekoop Co., Walker, Chicago, Ill.

SILICATE-OF-SODA

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Findley Co., F. G., Milwaukee, Wis.
Grasselli Chemical Co., The, Cleveland, O.
Mechling Bros. Chemical Co., Camden, N. J.
Paisley Products, Inc., Chicago, Ill.
Philadelphia Quartz Co., Philadelphia, Pa.
Standard Silicate Co., Cincinnati, O.

SPOOLS, FIBRE

American Can Co., New York, N. Y.
Cleveland Container Co., Cleveland, O.—215
Cross Paper Products Corp., New York, N.Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Sefton Fibre Can Co., St. Louis, Mo.—207

SPOUTS, POURING

American Aluminum Ware Co., Newark, N. J. (Aluminum)
American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Aridor Co., The, Chicago, Ill.—252
Art Tube Co., Irvington, N. J.
Consolidated Fruit Jar Co., New Brunswick, N. J.
R. C. Can Company, St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Sefton Fibre Can Co., St. Louis, Mo.—207
Standard Specialty & Tube Co., New Brighton, Pa.—211

SPOUTS, TIN CAN

American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Art Tube Co., Irvington, N. J.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
R. C. Can Co., St. Louis, Mo.—219
Standard Specialty & Tube Co., New Brighton, Pa.—211
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

SPRINKLER TOPS

Aluminum Co. of America, Pittsburgh, Pa.—209
American Aluminum Ware Co., Newark, N. J.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Art Tube Co., Irvington, N. J.
Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Imperial Metal Mfg. Corp., Long Island City, N. Y.
Mundet Cork Corp., Brooklyn, N. Y.—251
Peerless Tube Co., Bloomfield, N. J.—195
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Scovill Mfg. Co., Waterbury, Conn.
Sun Tube Corp., Hillside, N. J.—201
Thorn Tite Tops, Inc., New York, N. Y.—255
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

STAPLES, WIRE

Acme Staple Co., Camden, N. J.—437
Bates Mfg. Co., The, Orange, N. J.
Bostitch, Inc., E. Greenwich, R. I.—331
Dennison Mfg. Co., Framingham, Mass.—67
Diagraph Stencil Machine Corp., St. Louis, Mo.
Heller Co., The, Cleveland, O.—459
Hotchkiss Sales Co., Norwalk, Conn.
Paslode Co., Chicago, Ill.
Saranac Machine Co., Benton Harbor, Mich.—453

STENCIL BOARD

Botts Mfg. Co., Brooklyn, N. Y.
Bradley Stencil Machine Co., St. Louis, Mo.
Diagraph Stencil Machine Corp., St. Louis, Mo.
Garvey Fountain & Ink Co., St. Louis, Mo.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.

STOPPERS, BOTTLE

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Art Tube Co., Irvington, N. J.
Capstan Glass Co., Connellsville, Pa.—236-237
General Plastics, Inc., North Tonawanda, N. Y.—291
Mundet Cork Corp., Brooklyn, N. Y.—251
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.
Salem Glass Works, Salem, N. J.—236-237
Thorn Tite Tops, Inc., New York, N. Y.—255
Tyer Rubber Co., Andover, Mass.
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

STOPPERS, RUBBER

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Tyer Rubber Co., Andover, Mass.

STRING, PRINTED (Plain and Decorative)

Chicago Printed String Co., Chicago, Ill.—151
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., New York, N. Y.—159
Milwaukee Printed Spring Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Stark Bros. Ribbon Co., New York, N. Y.

TAGS, SHIPPING

Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Chippewa Paper Products, Inc., Chicago, Ill.
Dennison Mfg. Co., Framingham, Mass.—67
Fox Co., The C. J., Providence, R. I.
Foxon Co., The, Providence, R. I.—Insert 266-267
International Tag Co., Chicago, Ill.
May Co., The J. L., New York, N. Y.
Milwaukee Printing Co., Milwaukee, Wis.
Reyburn Mfg. Co., The, Philadelphia, Pa.
Tompkins Label & Service Co., Philadelphia, Pa.

TAPE, COTTON (Plain and Colored)

Chicago Printed String Co., Chicago, Ill.—151
Dennison Mfg. Co., Framingham, Mass.—67
Freydberg Bros., Inc., New York, N. Y.—159
Graeme Harrison Products, Inc., New York, N. Y.
Milwaukee Printed String Co., Milwaukee, Wis.

TESTERS, PAPER AND BOARD

Cady & Co., E. J., Chicago, Ill.
Perkins & Son, Inc., B. F., Holyoke, Mass.
Thwing Instrument Co., Philadelphia, Pa.
Toledo Scale Co., Toledo, O.

TIN PLATE

Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Inland Steel Co., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
McKeesport Tin Plate Co., McKeesport, Pa.
Republic Steel Corp., Youngstown, O.
United States Steel Corp., Pittsburgh, Pa.
Wheeling Steel Corp., Wheeling, W. Va.

TUBES, CELLULOSE AND CELLULOID

Emeloid Co., Inc., Arlington, N. J.—121
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
See-Thru Container Corp., Long Island City, N. Y.—119

TUBES, COLLAPSIBLE (Aluminum, Lead, Tin and Alloys)

Aluminum Co. of America, Pittsburgh, Pa.—209
Art Tube Co., Irvington, N. J.
Atlantic Mfg. Co., Newark, N. J.
Bond-Penn Tube Co., Newark, N. J.—205
National Collapsible Tube Co., Providence, R. I.—203
New England Collapsible Tube Co., New London, Conn., Chicago, Ill., and New York, N. Y.
Peerless Tube Co., Bloomfield, N. J.—195
Pennsylvania Collapsible Tube Co., Williamsport, Pa.
Standard Specialty & Tube Co., New Brighton, Pa.—211
Sun Tube Corp., Hillside, N. J.—201
Thorn Tite Tops, Inc., New York, N. Y.—255
Turner Tube Co., New Brunswick, N. J.
Victor Metal Products Corp., Brooklyn, N. Y.—197
Wheeling Stamping Co., Wheeling, W. Va.
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

TUBES, FIBRE

American Can Co., New York, N. Y.
Cambridge Paper Box Co., Cambridge, Mass.
Cin-Made Corp., Cincinnati, O.
Cleveland Container Co., Cleveland, O.—215
Cross Paper Products Corp., New York, N. Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
International Mailing Tube & Wrapper Co., Brooklyn, N. Y.
Mason Box Co., The, Attleboro Falls, Mass.
National Paper Can Co., Milwaukee, Wis.
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Seeley Tube & Box Co., Newark, N. J.
Sefton Fibre Can Co., St. Louis, Mo.—207

TUBING, GLASS

Kimble Glass Co., Vineland, N. J.—233

VARNISHES AND LACQUERS (For Coating)

Bakelite Corp., New York, N. Y.—287
Chemical Products Corp., Rumford, R. I.
Commercial Solvents Corp., New York, N. Y.—Insert 404-405
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Egyptian Lacquer Mfg. Co., New York, N. Y.—Insert facing 408
Fiberloid Corp., The, Indian Orchard, Mass.
Heekin Co., The, Cincinnati, O.
Hilo Varnish Co., Brooklyn, N. Y.
Levey Co., Inc., Frederick H., New York, N. Y.—Insert facing 409
Maas & Waldstein, Newark, N. J.—Insert, 412-413
Maff, Inc., John, Newark, N. J.
Miller, Inc., Bert C., New York, N. Y.
Murphy Varnish Co., Essex Varnish Division, Newark, N. J.
Pope & Gray, Inc., New York, N. Y.—421
Pyroxylin Products, Inc., Chicago, Ill.—Insert 416-417
Resinox Corp., New York, N. Y.—278-279
Roxalin Flexible Lacquer Co., Elizabeth, N. J.
Sherwin-Williams Co., The, Cleveland, O.

Dornbusch Agency, Inc., The, New York, N. Y.—343
Marconetti, Inc., A. E., New York, N. Y.—414-415

RAISED PRINTING

Barnard Mfg. Co., Paul J., Racine, Wis.
Bennington Wax Paper Co., Bennington, Vt.—167
Dennison Mfg. Co., Framingham, Mass.—67
Hanograf Corp., New York, N. Y.
Wood, Nathan & Virkus Co., Inc., New York, N. Y. (Virkotype Process)—Insert 424-425

RIBBONS, CELLULOSE

Crystal Tissue Co., The, Middletown, O.
Dennison Mfg. Co., Framingham, Mass.—67
Du-Tone Ribbon Corp., New York, N. Y.—163
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., Inc., New York, N. Y.—159
General Ribbon Mills, Catasauqua, Pa.
Hy-Sil Mfg. Co., Brooklyn, N. Y.
Lustro Ribbon Co., Inc., Chicago, Ill.
Stark Bros. Ribbon Co., New York, N. Y.

RIBBONS AND TIES
(Plain and Decorative)

Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Chicago Printed String Co., Chicago, Ill.—151
Crystal Tissue Co., The, Middletown, O.
Dennison Mfg. Co., Framingham, Mass.—67
Du-Tone Ribbon Corp., New York, N. Y.—163
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., Inc., New York, N. Y.—159
Gerstein Bros. Mfg. Corp., Brooklyn, N. Y.
Hy-Sil Mfg. Co., Revere, Mass.
Japan Paper Co., New York, N. Y.
Milwaukee Printed String Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
Stark Bros. Ribbon Co., New York, N. Y.
Taft Co., R. C., Chicago, Ill.
Thayer Mfg. Co., Norwich, Conn.
Walser Mfg. Co., Inc., Clifton, N. J.
W-E-R- Ribbon Corp., New York, N. Y.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

ROLL LEAF
(Stamping Foil)

Coughlin Manufacturing Co., New York, N. Y.
Dejonge & Co., Louis, New York, N. Y.
Diamond Decorative Leaf Co., Staten Island, N. Y.
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Hastings & Co., Philadelphia, Pa.
Holliston Mills, Inc., The, Norwood, Mass.—175
Kemp Co., W. H., New York, N. Y.
Markem Machine Co., Keene, N. H.
Matthias Paper Corp., Philadelphia, Pa.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Pauli Corp., Karl, New York, N. Y.
Peacock Roll Leaf Co., Elmhurst, L. I., N. Y.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Swift & Sons, Inc., M., Hartford, Conn.

ROLL LEAF STAMPING EQUIPMENT

Griffin Campbell, Hayes, Walsh, Inc., New York, N. Y.
Markem Machine Co., Keene, N. H.
Peerless Roll Leaf Co., Inc., Union City, N. J.
Thomson National Press Co., Franklin, Mass.

SAUSAGE CASINGS
(Artificial transparent)

Sylvania Industrial Corp., New York, N. Y.—Insert 170-171 and 240-241

SCALES, AUTOMATIC CHECK WEIGHERS

Amsco Packaging Machinery, Inc., New York, N. Y.—387
Elder & Robinson Co., Chicago, Ill.
Exact Weight Scale Co., Columbus, O.
Goat Co., Inc., The Fred, Brooklyn, N. Y.
International Business Machines Corp., New York, N. Y.
Jacobs Bros. Co., Inc., Brooklyn, N. Y.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Merrick Scale Mfg. Co., Passaic, N. J.
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.

SCALES, AUTOMATIC WEIGHING, FILLING

American Machine & Foundry Co., New York, N. Y.—378-379
Amsco Packaging Machinery, Inc., New York, N. Y.—387
Automatic Scale Co., Inc., New York, N. Y.
Bostitch, Inc., E. Greenwich, R. I.—331
Consolidated Packaging Machinery Corp., Buffalo, N. Y.—355
Exact Weight Scale Co., Columbus, O.
Ferguson Co., J. L., Joliet, Ill.—397
Goat Co., Inc., The Fred, Brooklyn, N. Y.
Gump Co., B. F., Chicago, Ill.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
National Packaging Machinery Co., Newtonville, Mass.—338-339
Package Machinery Co., Springfield, Mass.—398-399
Pneumatic Scale Corp., Ltd., Norfolk Downs Sta., Quincy, Mass.—383
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Stokes Machine Co., F. J., Philadelphia, Pa.—351
Stokes & Smith Co., Philadelphia, Pa.—344-345 and 401
Toledo Precision Devices, Inc., Toledo, O.
Toledo Scale Co., Toledo, O.
Triangle Package Machinery Co., Chicago, Ill.—333
U. S. Automatic Box Machinery Co., Inc., Newtonville, Mass.—338-339
Vol-U-meter Co., Inc., Brooklyn, N. Y.

SCALES, FREIGHT, EXPRESS

Fairbanks, Morse & Co., Chicago, Ill.
Howe Scale Co., Rutland, Vt.
Jacobs Bros. Co., Inc., Brooklyn, N. Y.
Kron Co., The, Bridgeport, Conn.
Toledo Scale Co., Toledo, O.
Turner Scale & Mfg. Co., Chicago, Ill.

SEALS, EMBOSSED

Aluminum Seal Co., New Kensington, Pa.—209
Attleboro Printing & Embossing Co., Attleboro, Mass.
Arkadia Paper Products Corp., New York, N. Y.
Cameo Die Cutting & Engraving Co., New York, N. Y.—269
Chicago Printed String Co., Chicago, Ill.—151
Consolidated Lithographing Corp., Brooklyn, N. Y.
Dennison Mfg. Co., Framingham, Mass.—67
Ever Ready Label Corp., New York, N. Y.—Insert 264-265
Foxon Co., The, Providence, R. I.—Insert 266-267
French-Bray Printing Co., The, Baltimore, Md.
Grand Rapids Label Co., Grand Rapids, Mich.
Heywood Co., Inc., R. R., New York, N. Y.—Insert 316-317
Horn, John M., New York, N. Y.
Hy-Sil Mfg. Co., Revere, Mass.
Kaumagraph Co., New York, N. Y.
Krause, Inc., Richard M., New York, N. Y.—Insert 270-271
Mason & Sons, F. E., Batavia, N. Y.—Insert 262-263
May Co., The, J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
National Color Printing Co., Inc., The, Baltimore, Md.—265
Palm, Fechteler & Co., New York, N. Y.—267
Reyburn Mfg. Co., The, Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
St. Louis Sticker Co., St. Louis, Mo.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., Dayton, O.
Tablet and Ticket Co., The, Chicago, Ill.—263
Triangle Package Machinery Co., Chicago, Ill.—333
Wheeler-Van Label Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 120-121
Wynekoop Co., Walker, Chicago, Ill.

SILICATE-OF-SODA

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Findley Co., F. G., Milwaukee, Wis.
Grasselli Chemical Co., The, Cleveland, O.
Mechling Bros. Chemical Co., Camden, N. J.
Paisley Products, Inc., Chicago, Ill.
Philadelphia Quartz Co., Philadelphia, Pa.
Standard Silicate Co., Cincinnati, O.

SPOOLS, FIBRE

American Can Co., New York, N. Y.
Cleveland Container Co., Cleveland, O.—215
Cross Paper Products Corp., New York, N.Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Sefton Fibre Can Co., St. Louis, Mo.—207

SPOUTS, POURING

American Aluminum Ware Co., Newark, N. J. (Aluminum)
American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Aridor Co., The, Chicago, Ill.—252
Art Tube Co., Irvington, N. J.
Consolidated Fruit Jar Co., New Brunswick, N. J.
R. C. Can Company, St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Sefton Fibre Can Co., St. Louis, Mo.—207
Standard Specialty & Tube Co., New Brighton, Pa.—211

SPOUTS, TIN CAN

American Can Co., New York, N. Y.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Art Tube Co., Irvington, N. J.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
R. C. Can Co., St. Louis, Mo.—219
Standard Specialty & Tube Co., New Brighton, Pa.—211
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

SPRINKLER TOPS

Aluminum Co. of America, Pittsburgh, Pa.—209
American Aluminum Ware Co., Newark, N. J.
Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Art Tube Co., Irvington, N. J.
Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.
Consolidated Fruit Jar Co., New Brunswick, N. J.
Imperial Metal Mfg. Corp., Long Island City, N. Y.
Mundet Cork Corp., Brooklyn, N. Y.—251
Peerless Tube Co., Bloomfield, N. J.—195
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Scovill Mfg. Co., Waterbury, Conn.
Sun Tube Corp., Hillside, N. J.—201
Thorn Tite Tops, Inc., New York, N. Y.—255
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

STAPLES, WIRE

Acme Staple Co., Camden, N. J.—437
Bates Mfg. Co., The, Orange, N. J.
Bostitch, Inc., E. Greenwich, R. I.—331
Dennison Mfg. Co., Framingham, Mass.—67
Diagraph Stencil Machine Corp., St. Louis, Mo.
Heller Co., The, Cleveland, O.—459
Hotchkiss Sales Co., Norwalk, Conn.
Paslode Co., Chicago, Ill.
Saranac Machine Co., Benton Harbor, Mich.—453

STENCIL BOARD

Botts Mfg. Co., Brooklyn, N. Y.
Bradley Stencil Machine Co., St. Louis, Mo.
Diagraph Stencil Machine Corp., St. Louis, Mo.
Garvey Fountain & Ink Co., St. Louis, Mo.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.

STOPPERS, BOTTLE

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Art Tube Co., Irvington, N. J.
Capstan Glass Co., Connellsville, Pa.—236-237
General Plastics, Inc., North Tonawanda, N. Y.—291
Mundet Cork Corp., Brooklyn, N. Y.—251
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.
Salem Glass Works, Salem, N. J.—236-237
Thorn Tite Tops, Inc., New York, N. Y.—255
Tyer Rubber Co., Andover, Mass.
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

STOPPERS, RUBBER

Anchor Cap & Closure Corp., Long Island City, N. Y.—236-237
Armstrong Cork Products Co., Closure Division, Lancaster, Pa.—228-229
Tyer Rubber Co., Andover, Mass.

STRING, PRINTED (Plain and Decorative)

Chicago Printed String Co., Chicago, Ill.—151
Fibre Cord Co., Inc., New York, N. Y.—171
Freydberg Bros., New York, N. Y.—159
Milwaukee Printed Spring Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Stark Bros. Ribbon Co., New York, N. Y.

TAGS, SHIPPING

Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Chippewa Paper Products, Inc., Chicago, Ill.
Dennison Mfg. Co., Framingham, Mass.—67
Fox Co., The C. J., Providence, R. I.
Foxon Co., The, Providence, R. I.—Insert 266-267
International Tag Co., Chicago, Ill.
May Co., The J. L., New York, N. Y.
Milwaukee Printing Co., Milwaukee, Wis.
Reyburn Mfg. Co., The, Philadelphia, Pa.
Tompkins Label & Service Co., Philadelphia, Pa.

TAPE, COTTON (Plain and Colored)

Chicago Printed String Co., Chicago, Ill.—151
Dennison Mfg. Co., Framingham, Mass.—67
Freydberg Bros., Inc., New York, N. Y.—159
Graeme Harrison Products, Inc., New York, N. Y.
Milwaukee Printed String Co., Milwaukee, Wis.

TESTERS, PAPER AND BOARD

Cady & Co., E. J., Chicago, Ill.
Perkins & Son, Inc., B. F., Holyoke, Mass.
Thwing Instrument Co., Philadelphia, Pa.
Toledo Scale Co., Toledo, O.

TIN PLATE

Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Inland Steel Co., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
McKeesport Tin Plate Co., McKeesport, Pa.
Republic Steel Corp., Youngstown, O.
United States Steel Corp., Pittsburgh, Pa.
Wheeling Steel Corp., Wheeling, W. Va.

TUBES, CELLULOSE AND CELLULOID

Emeloid Co., Inc., Arlington, N. J.—121
Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91
See-Thru Container Corp., Long Island City, N. Y.—119

TUBES, COLLAPSIBLE (Aluminum, Lead, Tin and Alloys)

Aluminum Co. of America, Pittsburgh, Pa.—209
Art Tube Co., Irvington, N. J.
Atlantic Mfg. Co., Newark, N. J.
Bond-Penn Tube Co., Newark, N. J.—205
National Collapsible Tube Co., Providence, R. I.—203
New England Collapsible Tube Co., New London, Conn., Chicago, Ill., and New York, N. Y.
Peerless Tube Co., Bloomfield, N. J.—195
Pennsylvania Collapsible Tube Co., Williamsport, Pa.
Standard Specialty & Tube Co., New Brighton, Pa.—211
Sun Tube Corp., Hillside, N. J.—201
Thorn Tite Tops, Inc., New York, N. Y.—255
Turner Tube Co., New Brunswick, N. J.
Victor Metal Products Corp., Brooklyn, N. Y.—197
Wheeling Stamping Co., Wheeling, W. Va.
White Metal Mfg. Co., Hoboken, N. J.
Wirz, Inc., A. H., Chester, Pa.—190

TUBES, FIBRE

American Can Co., New York, N. Y.
Cambridge Paper Box Co., Cambridge, Mass.
Cin-Made Corp., Cincinnati, O.
Cleveland Container Co., Cleveland, O.—215
Cross Paper Products Corp., New York, N. Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
International Mailing Tube & Wrapper Co., Brooklyn, N. Y.
Mason Box Co., The, Attleboro Falls, Mass.
National Paper Can Co., Milwaukee, Wis.
R. C. Can Co., St. Louis, Mo.—219
Ritchie & Co., W. C., Chicago, Ill.—55
Seeley Tube & Box Co., Newark, N. J.
Sefton Fibre Can Co., St. Louis, Mo.—207

TUBING, GLASS

Kimble Glass Co., Vineland, N. J.—233

VARNISHES AND LACQUERS (For Coating)

Bakelite Corp., New York, N. Y.—287
Chemical Products Corp., Rumford, R. I.
Commercial Solvents Corp., New York, N. Y.—Insert 404-405
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Egyptian Lacquer Mfg. Co., New York, N. Y.—Insert facing 408
Fiberloid Corp., The, Indian Orchard, Mass.
Heekin Co., The, Cincinnati, O.
Hilo Varnish Co., Brooklyn, N. Y.
Levey Co., Inc., Frederick H., New York, N. Y.—Insert facing 409
Maas & Waldstein, Newark, N. J.—Insert, 412-413
Maff, Inc., John, Newark, N. J.
Miller, Inc., Bert C., New York, N. Y.
Murphy Varnish Co., Essex Varnish Division, Newark, N. J.
Pope & Gray, Inc., New York, N. Y.—421
Pyroxylin Products, Inc., Chicago, Ill.—Insert 416-417
Resinox Corp., New York, N. Y.—278-279
Roxalin Flexible Lacquer Co., Elizabeth, N. J.
Sherwin-Williams Co., The, Cleveland, O.

VIALS, CELLULOSE AND CELLULOID

Hygienic Tube & Container Co., Newark, N. J.—99
Lusteroid Container Co., Inc., South Orange, N. J.—91

VIALS, GLASS

Kimble Glass Co., Vineland, N. J.—233
Owens-Illinois Glass Co., Toledo, O.—242-245
Pennsylvania Glass Products Co., Pittsburgh, Pa.

WADDING, ABSORBENT

Kimberly-Clark Corp., Neenah, Wis.—454-455
Pioneer Paper Stock Co., Chicago, Ill.
Sweetnam, Inc., Geo. H., Cambridge, Mass.—463

WINDOW DISPLAY TRIMMINGS (Also see Various Paper Headings)

Aldine Paper Co., New York, N. Y.
Aluminum Co. of America, Pittsburgh, Pa.—209
American Foil Corp., New York, N. Y.
American Tissue Mills, Holyoke, Mass.
Bennington Wax Paper Co., Bennington, Vt.—167
Dennison Mfg. Co., Framingham, Mass.—67
Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
Du-Tone Ribbon Corp., New York, N. Y.—163
Hinde & Dauch Paper Co., The, Sandusky, O.
Hy-Sil Mfg. Co., Revere, Mass.
National Tinsel Mfg. Co., Manitowoc, Wis.
Paper Affiliates Co., Inc., New York, N. Y.—Insert 148-149
Pauli Corp., Karl, New York, N. Y.
Reyburn Mfg. Co., The, Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 156-157
Royal Card & Paper Co., New York, N. Y.—Insert 184-185
United Cotton Products Co., Fall River, Mass.—Insert 144-145
United States Printing & Lithograph Co., Cincinnati, O. and Baltimore, Md.—Insert 268-269 and 304-305
Whiting Co., Inc., C. R., Hackensack, N. J. and New York, N. Y.—Insert 150-151

WINDOW DISPLAYS

See Lithographers
See Boxes, Folding and Display Cartons
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Chicago Steel & Wire Co., Chicago, Ill.
Gerrard Co., Inc., The, Chicago, Ill.
Heller Co., The, Cleveland, O.—459
Prentiss & Co., Geo. W., Holyoke, Mass.
Seneca Wire & Mfg. Co., Fostoria, O.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, New Britain, Conn.

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Acme Staple Co., Camden, N. J.—437
Acme Steel Co., Chicago, Ill.—431
Bostitch, Inc., E. Greenwich, R. I.—331
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Heller Co., The, Cleveland, O.—459
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Prentiss & Co., Geo. W., Holyoke, Mass.
Saranac Machine Co., Benton Harbor, Mich.—453
Seneca Wire & Mfg. Co., Fostoria, O.
Wilson Steel Products Co., Chicago, Ill.

WIRE STITCHING

Acme Staple Co., Camden, N. J.—437
Acme Steel Co., Chicago, Ill.—431
Bostitch, Inc., E. Greenwich, R. I.—331
Chicago Steel & Wire Co., Chicago, Ill.
Dexter Folder Co., New York, N. Y.—441-446
Heller Co., The, Cleveland, O.—459
Ideal Stitcher & Mfg. Co., Racine, Wis.—465
Morrison Co., Inc., J. L., Niagara Falls, N. Y.
Prentiss & Co., Geo. W., Holyoke, Mass.
Saranac Machine Co., Benton Harbor, Mich.—453
Seneca Wire & Mfg. Co., Fostoria, O.
Wilson Steel Products Co., Chicago, Ill.

WOOD VENEER, GENUINE

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Container Corp. of America, Chicago, Ill.
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Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Kimberly-Clark Corp., Chicago, Ill.—454-455
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WRAPPERS, FOIL

Aluminum Co. of America, Pittsburgh, Pa.—209
American Foil Corp., New York, N. Y.
Bennington Wax Paper Co., Bennington, Vt.—167
Daniels Mfg. Co., Rhinelander, Wis.
Foil Products Corp., New York, N. Y.
Food Packaging, Inc., Milwaukee, Wis.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Johnston Tin Foil & Metal Co., St. Louis, Mo.
Keller-Dorian Paper Co., Inc., New York, N. Y.
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Standard Rolling Mills, Inc., Brooklyn, N. Y.

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Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—167
Bennington Wax Paper Co., Bennington, Vt.—167
Central Waxed Paper Co., Chicago, Ill.
Daniels Mfg. Co., Rhinelander, Wis.
Deerfield Glassine Co., Monroe Bridge, Mass.
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Dobeckmun Co., The, Cleveland, O.—Insert 406-407
Hamersley Mfg. Co., Inc., Garfield, N. J.
Hartford City Paper Co., Hartford City, Ind.
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Henle Wax Paper Mfg. Co., Inc., The, New York, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Marvellum Co., Holyoke, Mass.—Insert 176-177
Matthias Paper Corp., Philadelphia, Pa.
Menasha Products Co., Menasha, Wis.
Milprint Products Corp., Milwaukee, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 162-163
Paterson Parchment Paper Co., Bristol, Pa.
Riegel Paper Corp., New York, N. Y.—152-153
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
Shellmar Products Co., Chicago, Ill.
Traver Corp., Chicago, Ill.
United Mfg. Co., The, Springfield, Mass.—Insert 182-183
Westfield River Paper Co., Russell, Mass.—Insert 164-165
Wurzburg Bros., Memphis, Tenn.—Insert 120-121

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Central Waxed Paper Co., Chicago, Ill.
Continental Paper & Bag Corp., New York, N. Y.
Hamersley Mfg. Co., Inc., Garfield, N. J.
Johnson Automatic Sealer Co., Ltd., Battle Creek, Mich.—393
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—147
Marathon Paper Mills, Rothschild, Wis.
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Milprint Products Corp., Milwaukee, Wis.
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Paterson Parchment Paper Co., Bristol, Pa.
Riegel Paper Corp., New York, N. Y.—Insert 152-153
Rose Bros. (Gainsborough), Ltd., Gainsborough, England—378-379
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Traver Corp., Chicago, Ill.
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SIZE AND SHAPE
COLOR
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PACKAGE DISTRIBUTION
COLOR PHOTOGRAPHY

REFERENCES

See all other sections for specific applications of design principles.

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ACKNOWLEDGMENT TO CONTRIBUTORS

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E. H. BERGIN, The Pilliod Cabinet Co.
D. H. BITNEY, Union Steel Products Co.
FRANK L. BLAKE, Kimberly-Clark Corp.
F. I. BROWN, Bostitch Sales Co.
A. S. BYE, Fibre Cord Company, Inc.

C. H. CADWALLADER, Toledo Scale Co.
G. L. CANDLER, The Tablet & Ticket Co.
D. P. CARPENTER, Reynolds Metals Co. Inc.
K. V. CASSIDY, The Purity Paper Vessels Co.
A. U. CLAGHORN, Pioneer Paper Stock Co.
CARL CLAUS, New Jersey Machine Corp.
DEXTER D. COFFIN, C. H. Dexter & Sons, Inc.
M. H. CORLEY, Miller Wrapping and Sealing Machine Co.
H. V. CRAGGS, Arthur Colton Co.
J. T. CRONK, Hampden Glazed Paper & Card Co.

R. H. DAVIS, Lusteroid Container Company, Inc.
S. K. DICKSTEIN, Ever Ready Label Corp.
R. C. J. DILLON, American Sealcone Corp.
DAVID DONOVAN, The International Printing Ink Corp.
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C. E. FAWKES, Pyroxylin Products, Inc.
E. E. FINCH, Karl Kiefer Machine Co.
A. T. FISCHER, Packaging Products Corp.
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BENJAMIN A. FRANKLIN, Glazed and Fancy Paper Manufacturers Association
W. H. FRICKER, M. D. Knowlton Co.
GORDON H. FRIEND, Thomas M. Royal & Co.
G. PRESCOTT FULLER, Dexter Folder Co.

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ARTHUR H. GRACE, Sefton Fibre Can Co.
R. J. GRAY, Dewey and Almy Chemical Co.

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H. H. LEONARD, Consolidated Packaging Machinery Corp.
H. B. LERMER, Hygienic Tube & Container Co.
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HAROLD A. LEVEY, American Products Mfg. Co.
LAWRENCE LEY, S. K. Smith Co.
E. F. LOUGEE, Modern Plastics
H. H. LOUNSBERRY, Farrington Manufacturing Co.
C. G. LUDLOW, Harris, Seybold Potter Co.

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J. C. MENKIN, Lithographers National Association
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DON G. MITCHELL, American Can Co.
A. A. MORSE, Chambon Corp.
J. M. MUNSON, The Munson Bag Co.
L. R. MUSKAT, Triangle Package Machinery Co

K. B. NEFF, The Exact Weight Scale Co.

ERNST OHNELL, The Reed Company

H. D. PAYNE, Chicago Molded Products Corp.
M. D. PENNEY, The Forbes Lithograph Manufacturing Co.
E. E. PETERSON, United States Printing & Lithograph Co.
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B. H. PROUT, International Silver Co.
ROGER L. PUTNAM, Package Machinery Co.

A. I. QUACKENBUSH, Chase Brass & Copper Co., Inc.

BOYD H. REDNER, Johnson Automatic Sealer Company, Ltd.
DANA W. RHINES, The Brown Bag Filling Machine Co.
I. H. RISSER, U. S. Bottlers Machinery Co.
GORDON H. ROBERTSON, Sherwin-Williams Co.
W. O. ROGERS, JR., Union Bag & Paper Corp.
WM. M. ROSE, Sun Tube Corp.

A. J. ST. JOHN, Celluloid Corp.
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C. E. SCHAEFFER, Stokes & Smith Co.
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D. V. WILLIAMSON, Williamson Glue and Gum Works
H. R. WILSON, JR., Mono Service Co.

PACKAGE-TESTING AND ADVISORY INSTITUTIONS

THIS LIST, representing an assembly for reference purposes of the agencies—public, semi-public and private—that are in position to contribute, directly or indirectly, to a knowledge of packages and packaging, has been compiled from known sources. It is to be hoped that readers, knowing of other such organizations, will advise PACKAGING CATALOG, so that these may be included in subsequent issues.

American Bottlers of Carbonated Beverages, 726 Bond Bldg., Washington, D. C.: Maintains, incident to its service activities, a trade mark bureau which comes within hail of packaging through efforts to stabilize notations on lithographed crowns, etc.

American Management Association, 20 Vesey St., New York: Research on packaging carried on incident to the planning for the annual Packaging Conference, Clinic and Exposition.

American Society for Testing Materials, 1315 Spruce St., Philadelphia, Pa.: Limited in its service to the packaging industries but makes some contact via its work on the standardization of specifications and methods of tests for miscellaneous materials such as papers and similar products.

American Spice Trade Association, 82 Wall St., New York City: Has assembled considerable data on packaging in the spice field incident to simplification or standardization of spice containers.

American Standards Association, 29 West 39th St., New York City: A federation of 37 national technical societies and trade associations designed to serve as a clearing house through which the standardization work of technical and industrial bodies is correlated. Devoted, prior to 1933, to national industrial standards, the American Standards Association, in that year, came into the packaging picture in a large dimension through taking over, from the National Bureau of Standards, the organization units known as the Division of Trade Standards, the Division of Specifications and the Division of Simplified Practice, all of which are concerned both directly and indirectly with packaging materials and packaging practice.

American Warehousemen's Association, 222 West Adams St., Chicago, Ill.: A resource for the answering of technical questions bearing upon package design and package construction as influenced by considerations of storage in, and distribution from, public warehouses. Also for details on the procedure of re-packing or re-packaging as carried on in local or regional warehouses.

American Waxed Paper Association, 342 Madison Ave., New York City: This organization claims that its standard requirements for packaging have resulted in the elimination of many needless sizes and that the organization has further contributed to the cause of better packaging by establishing standards for quality, weight and other trade specifications.

Associated Cooperate Industries of America, 2008 Railway Exchange Bldg., St. Louis, Mo.: Studies of the properties, construction and uses of tight and slack wooden barrels and kegs.

Associated Knit Underwear Manufacturers of America, Mann Building, Utica, N. Y.: Has on file data accumulated preliminary to the adoption of five standard sizes of boxes for the underwear line.

Bureau of Business Research, School of Business Administration, University of Pittsburgh, Pittsburgh, Pa.: Has conducted packaging studies, notably "The Investigation of Consumer Attitude Toward Meat Packages," carried out several years since with the cooperation of the *National Provisioner*.

Bureau of Fisheries, Department of Commerce, Washington, D. C.: A national bureau concerned with the maintenance and extension of the commercial fisheries of the United States and Alaska. Some years ago the bureau gathered, at first hand, valuable information on the containers and packages used in shipping shucked oysters. During the past year the bureau has established a refrigeration laboratory to facilitate study of the improvements in the methods of handling fresh fish. Technologists of the Division of Fishery Industries are devoting much attention to the packaging of fresh, frozen and smoked products and will be in a position to give authoritative advice to packagers.

Census of Manufactures, and Census of Distribution, The Bureau of the Census, Department of Commerce, Washington, D. C.: Outstanding sources for authoritative statistical information covering the production and distribution of all classes of packages and packaging materials.

Container Testing Laboratories, Inc., 300 Fourth Ave., New York City: An organization of consulting engineers specializing in the design, construction, packing, testing and transportation problems of containers for all commodities.

The Cotton-Textile Institute, Inc., 320 Broadway, New York City: With the object of extending the uses of cotton, has carried on extensive experiments and tests on new uses for cotton bags and other cotton containers for industrial use.

W. V. Cruess, Associate Professor of Fruit Products, 336 Hilgard Hall, College of Agriculture, University of California, Berkeley, Cal., has gathered first-hand valuable information on the packaging of fruit products and similar merchandise.

H. C. Diehl, U. S. Agricultural Experiment Station, Wenatchee, Wash.: Specialist in charge of federal investigations of the packaging of "frozen pack" of berries and other fruits, vegetables, etc.

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Federal Trade Commission, Washington, D. C.: Creator of the institution known as the Trade Practice Conference which is employed, on occasion, to bring about concert of action in an industry covering packaging practices. Data available on specific projects, for example, the recommendation to the spice trade of standard containers for retail units.

Folding Paper Box Association of America, 205 West Wacker Drive, Chicago, Ill.: Deals with the ordinary functions of an association, covering statistics, legislative matters and general assistance to local associations.

Forest Products Laboratory, Madison, Wis.: Operated by the Forest Service, U. S. Department of Agriculture, in cooperation with the University of Wisconsin. It has a division devoted to containers and has carried on, over a period of years, much valuable research on containers. The information obtainable at this source is not confined, as many business men have assumed, to wooden packages.

Freight Container Bureau, American Railway Association, 30 Vesey St., New York City: Has outlined, in a large number of publications, efficient and economical methods of packing and shipping various commodities. Concerns itself with crates and crating rather than with internal packing and packages but has also carried on some research work on inside containers, as, for instance, the study of cans for liquids, semi-liquids and pastes.

Glass Container Association of America, 19 West 44th St., New York City: Carries on a continuing program of research on the various classes of glass packages such as preserve glasses, drug and pharmaceutical bottles, cheese jars, etc.

Glazed and Fancy Paper Manufacturers' Association, 95 State St., Springfield, Mass., maintains a registration bureau of designs for such papers. Also maintains an inquiry service for customers and users.

Institute of American Meat Packers, 506 South Wabash Ave., Chicago, Ill.: Incident to the work of standardizing packs, the Institute has carried on a considerable amount of research on packages as, for example, lard cans, sausage and sliced bacon cartons, wrappers for smoked meats, and glass jars for vinegar-pickled products. Merchandising investigations conducted to ascertain changes in the size and weight of packs.

League for the Suppression of Design Piracy, Graybar Building, New York City: Includes among its objectives protection of package designs and has in hand evidence of evils of design invasion.

Library of Congress, Washington, D. C.: Has a fairly complete collection of books in English and foreign languages on packaging in all its branches, and bound volumes of periodicals devoted to the subject. The one best source of out-of-print publications. Volumes may not be withdrawn from the Library but may be consulted in the reading rooms and photostat copies obtained when circumstances warrant. U. S. Copyright Office, a branch of the Library, registers art subjects such as are employed in gift packaging.

Merchandising Research Divison, Bureau of Foreign and Domestic Commerce, Washington, D. C.: The Costs and Operations Analysis Section has inaugurated, incident to general surveys of wholesale and retail distribution, a series of studies of packages and packaging practice. The current example is the study of proprietary packages, incident to the National Drug Store Survey made by the division.

Metropolitan Life Insurance Co., Policyholders' Service Bureau, 1 Madison Ave., New York: "The Use of Style and Design in Industry," and other reports touching packaging practices are published by the Division of Marketing and Distribution.

Modern Packaging, 425 Fourth Ave., New York City: Maintains a permanent exhibit of packages and packaging materials, together with photographs and catalogs of packaging equipment, general and specific packaging information, materials, etc.

National Alliance of Art and Industry, Inc., 30 Rockefeller Plaza, New York City: Maintains a library of design information and a laboratory for design experimentation and conducts a vocational guidance and placement service (maintained by the Art Alliance of America) for artists and designers.

National Bureau of Standards, Washington, D. C.: The principal Federal scientific laboratory, which serves the cause of progress in industry. Has the dual function of a research agency and official testing station for all branches of the national Government in examination of samples and verification of Departmental purchases. Scrutiny of packages, as such, is confined principally to the package standardization projects of the Division of Simplified Practice. Practical aid for packagers is contributed by numerous specialized studies of packaging materials, notably papers, inks, adhesives, etc. In 1933 major portion of the work on simplification and commercial standards was transferred to American Standards Association.

National Canners Association, 1739 H St., N. W., Washington, D. C.: Packaging is a major subject in the permanent program of this organization. Following the adoption of 27 standard sizes of cans, merchandising studies are in progress to ascertain the need of modifications or revisions of the package schedule.

National Confectioners' Association, 111 W. Washington Street, Chicago, Ill.: Maintains a trade mark "search" service and has carried on research work on special aspects of packaging.

National Container Association, 205 W. Wacker Drive, Chicago, Ill.: Has conducted studies of performance of fibre boxes in particular fields as well as research work covering trial shipments of perishable goods packed in fibre boxes of various types.

National Paint, Oil and Varnish Association, 2201 New York Avenue, N. W., Washington, D. C.: Maintains a trade mark bureau and committee on trade marks which make indirect contact with packaging activities in the effort to prevent duplication of dress of goods within the industry.

National Paperboard Association, 80 E. Jackson Blvd., Chicago, Ill. (also an office at 40 E. 41st St., New York): Conducts a complete statistical service for members;

cooperates with the U. S. Department of Commerce and other Governmental bureaus, as well as with the users of paper-board, in the maintenance of quality standards; serves members of the industry in freight traffic and freight classification subjects; maintains a forum for the consideration of pending legislation so that individual members of the industry may be properly informed.

National Paper Box Manufacturers Association, 802 Liberty Trust Building, Philadelphia, Pa.: Clearing house for information on set-up paper boxes.

National Paper Trade Association of the United States, 420 Lexington Ave., New York City: Contacts the packaging field via its research work on gummed tape, tissue papers, paper bags, etc.

New York University, Washington Sq., New York City: Has conducted, in its Department of Marketing, comparative tests to ascertain consumer preferences for package design and package color. A typical test was that to measure the reaction of a representative cross-section of the public to several tentative designs for a new package for Wheatsworth Whole Wheat Crackers.

Package Standardization Specialists: The U. S. Department of Agriculture has, in its Bureau of Agricultural Economics, specialists who are the best sources of information on all the phases of package standardization which embrace baskets, crates, boxes, barrels, sacks and other packages for fruits and vegetables.

Packaging Machinery Manufacturers Institute, Inc., 342 Madison Ave., New York: The official organization of the packaging equipment group.

Packaging Section, Transportation and Communication Division of the Bureau of Foreign and Domestic Commerce, Washington, D. C.: The Commerce Department's agency for packing research and dissemination of information. Supposedly concerned primarily with packing (especially for overseas shipment) as distinguished from packaging, but nevertheless a valuable source of data for packagers. Most important contribution to date is a series (as yet uncompleted) of bulletins on the various types of packages entering domestic commerce. Bulletins are available on fibre containers, wooden boxes, wooden crates, plywood boxes, wire-bound boxes, nailed wooden crates, parcel post packages, etc.

Paper Bag Manufacturers Institute, 11 West 42nd St., New York City: Information bureau on the paper bag medium in general and particularly its later modifications such as the "window" bag, etc.

Plywood Box Manufacturers Association of America, 260 Tremont St., Boston, Mass.: Directory service to a section of the industry.

Don L. Quinn Company, 609 N. La Salle St., Chicago, Ill.: Maintains laboratory for box testing and container designing. Completely equipped with drum testers, compression testers and other necessary instruments used for such testing.

Railway Express Agency, Inc., New York City: Gives counsel to shippers or other interested parties on "good packing," "good wrapping" and "good marking." Specific rules or recommendations for eleven different classes of commodities.

Standard Container Manufacturers, Realty Bldg., Jacksonville, Fla.: Seeks to promote uniform customs, usages and standards for all fruit and vegetable packages, and carries on research in economies in manufacture of such products.

Traffic, Receiving and Marking Group of the National Retail Dry Goods Association, 225 West 34th Street, New York City: Has assembled data on store packaging, etc. Has published reports on unit packing, shipping containers and store packing.

Wirebound Box Manufacturers Association, 111 West Washington St., Chicago, Ill.: Tests wirebound boxes and designs new packages. Prepares specifications for styles of wooden wirewound boxes.

United Typothetae of America, 1200 Tower Bldg., Washington, D. C.: Deals with packages, incident to its research in the field of merchandise distribution and market analysis.

U. S. Food and Drug Administration, Department of Agriculture, Washington, D. C.: The official agency for the enforcement of the Federal Food and Drug Act. Stands ready, in the position of counsellor, to advise packagers of food products on what constitutes "misbranding" and to indicate what policies in package design will absolve packagers from any suspicion of "slack" packaging or "short" packaging. Illustrative of the practical research work of this regulatory institution is the comparative study of tea packages, undertaken to ascertain the comparative advantages and disadvantages of the different species of household packages for tea. This administration has, in its food control laboratory, a mineral water and beverage unit that is a source of information on the subject indicated.

United States Patent Office, Washington, D. C.: Supplies, on order by number, at a nominal price, printed copies of designated design patents covering packages, also mechanical patents covering package features with working arts, such as closures, etc. Accepts subscriptions for the delivery by mail of the weekly issues of the *Patent Office Gazette*, the official publication, which lists, illustrates and indexes the patents issued and trade marks registered, with the names of applicants. The *Gazette* likewise enumerates by title the package labels on which copyrights have been obtained.

The United States Printing and Lithograph Co., Cincinnati, Ohio: This house has a trade mark bureau which affords information and suggestion on the subject of packaging. In 1931, the company did important research on private brand packaging.

Wolf & Company, Department of Business Analysis, 1616 Walnut St., Philadelphia, Pa.: Has, of date of the past few years, a number of surveys and studies of packaging and kindred subjects, such as the "Analysis of the Set-Up Paper Box Manufacturing Industry," conducted for the National Paper Box Manufacturers Association.

Wooden Box Bureau of the National Association of Wooden Box Manufacturers and National Lumber Manufacturers Association, Conway Building, Chicago, Ill.: Promotional work has included research on the development of small nailed wooden boxes.

PRINCIPLES OF PACKAGE DESIGN

RIGHTLY USED modern packaging enhances the value of articles in the consumer's eyes. It has long since passed beyond the narrow confines of simply being a good container, or protective wrapper. It is all that—and more! It has rightfully moved from the factory to the sales force, for, in its new role, the modern package exerts an influence on the consumer denied even to the retailer and his clerks. It is of inestimable help in presenting the product to potential consumers, in a manner they will prefer—not alone compelling them to look at it but, by securing their approval, pleasantly forcing them to buy it, to secure the joys and pleasures it has built in their minds.

The popularity of the "Stop and Shop" and "Cash and Carry" stores, in every retail classification, demonstrates the practice of the consumer in visiting the retail establishments to secure his daily needs (as well as those of his entire family). Open displays of inviting products have made his purchases quick and easy. Store owners and their clerks are becoming less and less salesmen, able to successfully influence the consumer's decision, his growing discrimination being the deciding factor between the success of one product and the failure of another. The package has taken on a new significance, standing in many cases as the deciding element, helping the consumer to buy or reject the product.

Packaging improvements are in order for immediate study and adoption because:

1. They prevent the product from becoming obsolete in the minds of present consumers.
2. They will attract consumers who had never before been interested in the product in its old outmoded dress.
3. They will furnish the necessary "surprise" element, convincing consumers that the product is being improved in step with the modern tempo.
4. They will intrigue the interest of retailers, being placed in prominent open display, where the maximum number of potential consumers will see and buy them.
5. They will frequently produce a faster and more definite sales response than is obtainable from a like sum spent in general consumer advertising.
6. They will produce a desirable stimulation among salesmen, jobbers and retailers, by giving new talking points, thus increasing the number of retail outlets and ultimate consumers.
7. They will be in step with the present trend of making goods more desirable in the minds of consumers.
8. They will furnish a saner, sounder and more profitable reason to buy and use the product than simply a low price.
9. While there is no exact means of foretelling what regulations will prevail in the future, from the present administration or some other, the new packages will establish the products in the minds of consumers in a new and more desirable way, and shape the demand in the manufacturer's favor.
10. The manufacturer himself may receive the benefit of specialized knowledge and experience, standing him in good stead in more effectively planning his future marketing operations.

Modern packaging was born on that day, about the opening of the 20th Century, when one manufacturer recognized that it was his responsibility to package his product in his factory, in units which were suitable for the needs of ultimate consumers.

The bulk packaging of staple products in barrels, wooden boxes and kegs became obsolete because:

1. It failed to bring the product from the producer to the ultimate consumer in its original, fresh and attractive state.
2. It was wasteful for the retailer to do the individual packaging in units the consumer could and would buy at one time.
3. It failed to identify the product by trade name, so that the consumer could be guided in future purchases, asking for the product by a specific trade name, rather than a general product name, and being sure of getting uniform quality.
4. There was no sanitary and effective way of openly displaying the product so that it would sell itself on sight, and on the impulse of the moment.

Having taken the radical step of packaging his product in consuming units, the selfish interests of the manufacturer made it necessary for him to identify the package with a name, symbol or trade mark, so that consumers once having bought and liked the product might readily repurchase it, by specifying the name, without fear of substitution.

This represented the second step in the development of packaging from the open cracker barrel to the present highly specialized and efficient merchandising aid, which modern packages have become, and was known as the stage of Identification. In far too many cases, the manufacturer stopped any further real package study and improvement at this point, resting content with the fact that his package definitely identified his product with his trade mark or firm name.

As more and more products appeared, packaged in consuming units, and competition began making itself felt, these manufacturers, who were content to stop further package improvement with mere identification, sought ways and means whereby they could make their

packages command the consumer's attention, over and above competitive products, by the use of strong, blatant color schemes and designs, which would almost literally "knock the consumer's eye out," and thus could not be denied attention. But to the extent that they all followed suit, in the use of strong reds, blues, oranges and greens, they all suffered from these oft-repeated colors, and found that their packages, like their competitors, instead of standing out prominently, as they had hoped, simply made up one part of a terribly monotonous blare of color on the dealer's shelves.

In searching for some distinctive, individual and characterful method of package presentation, a few manufacturers began studying the consumers of their, and competitive, products, and found that they were human beings, with definite likes and dislikes, and that they used their own judgment favorably or otherwise in their purchase and use of products, which promised them satisfaction of greater value than the money in their pockets.

Right here they discovered the important merchandising truth that consumers don't buy products for the products themselves, but rather for what those products will selfishly do for them. Mere indentification of a product was insufficient for this type of a selling job, and so they began finding ways of presenting their products in terms of selfish interest to their potential consumers, showing what they would do for these consumers, and thereby giving them good reasons why they should buy and use the products.

Another significant thing which these inquiring minds discovered was the undeniable fact that while men like the strong, virile colors, perhaps because of their limited color education, that these same colors actually hurt the color senses of women consumers. While women may be temporarily attracted to strong colors, their attention soon turns to repulsion. From the time they begin making wardrobes for their dolls, women are trained in matching colors, and due to their experience in buying fabrics, wall and floor coverings, furniture, lamps, etc., they have keenly developed color senses, and as a result much prefer the softer, subtler tints and shades.

The inevitable conclusion to this is that if a product is to be bought by women, it is foolish indeed to package it in bright, blaring colors, running the risk of disgusting and driving women away, rather than pleasantly attracting them by the use of color hues and shades which appeal to their love of fine things. Attracting attention is only part of the sales battle, for unless the attention is favorable it fails completely in the accomplishment of its objective—to sell the product.

With such thoughts, these merchandising-minded manufacturers pressed onward in the development of their packages, giving due consideration to protection of the product, and proper identification, but striving above everything else to make their packages salesmen-in-print, informing and persuading prospective consumers of the joys, satisfaction and advantages to be gained by possession and use of the product.

In this phase of package development, the merchandising man was called upon to analyze the product, its uses and advantages, its present and potential consumers, all to the end that those "Reasons-why" more consumers should and would buy and use the product might be incorporated in the finished package. Armed with these facts, the skill and ingenuity of the highly trained artist was then utilized in interpreting and translating words, thoughts and ideas into illustrations and design schemes, which would pleasantly and quickly appeal to the strongest desires of consumers, and thus cause them to buy. Personal preferences of factory executives were necessarily submerged in favor of the all important task of presenting the product, through the package, in those designs, colors and schemes which would cause them to stop, look, want and buy the product, in profitable numbers.

The final stage of package development concerns itself with ways and means of inducing consumers to buy all products in a manufacturer's line, rather than simply one popular number. This is accomplished by Families of Packages, each bearing a distinct family resemblance to all others. It is certainly sound reasoning that once a consumer has bought, used and like one product in a line, that it should be relatively easy for him to go from that known and accepted product to other products in the same line, which he will accept because of his liking the first one, and which he will recognize through their similarity in packaging.

The firm foundation, therefore, on which modern packaging is laid is the fact that it can be proved, beyond any doubt, that when a package, or a family of packages, is properly designed, with a complete knowledge of and consideration for the needs and desires of potential consumers, it can be made to serve as a very efficient and profitable salesman in its own behalf.

Strip the science of modern packaging of all of its theories, and view your packages from the simple viewpoint of salesmen-in-print for your products, and I believe the entire subject immediately acquires new significance. For in that changed viewpoint, your packages become salesmen and profit-producers rather than the now obsolete viewpoint of simple containers, protective wrappers and necessary expense items, to be purchased as cheaply as possible.

The new package replaces the old one only because it makes the product more desirable to the consumer. It gains acceptance through pleasing sufficiently to make the consumer buy it. Either by looking better, being more convenient, or by an improved product appeal it makes the consumer say "Yes" when it costs money to vote.

The three jobs that the modern package performs are:

1. To arrest favorable attention;
2. To stimulate interest and desire;
3. To encourage purchase and repurchase.

Perhaps there are honest doubters who think "Yes, we agree that selling is paramount today, that packages can be made efficient salesmen in their own right, but just how shall we go about making our packages

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better salesmen?" For the benefit of such the following procedure is recommended:

Just eliminate your present package from your mind, and view your product from the ultimate consumer's viewpoint, answering these questions:

1. What is your product—a necessity or a luxury?
2. Just what does the average consumer know about your product (or similar ones)?
3. Why should the consumer buy your product in preference to all others?
4. What product or products offer the strongest competition to the larger sales of your product?
5. What advantages do these competitive products offer the consumer over and above your product?
6. What copy appeals have, and will prove most effective in bringing new consumers to the point of purchase and use of your product?
7. Where will consumers buy your product? Are these the most convenient retail outlets available?
8. Why will they buy it, because you consistently advertise it in magazines, newspapers, etc., or because they see it attractively displayed in the stores they daily visit, and buy it on sight?
9. How can retailers be encouraged to give greater open display to your product so that it will be seen by larger numbers of potential consumers?
10. What descriptive and informative facts should the consumer have about your product to insure maximum satisfaction in use? Can this be reduced to a few words on the package, or had it better be treated in sufficient detail in a separate package enclosure?
11. Have you a trade mark, or some other distinguishing mark, which, having been used on present and past packages, may have become widely known, and thus enable consumers to immediately recognize your old product in a new and more attractive dress?
12. What is the weight and retail price of the product? Is this well in line with competition? If it is high, how can you justify consumers paying it? What advantages would be secured by featuring the price on the new package?
13. Has the product a particular and limited appeal—such as, to women interested in preserving their beauty, men and women suffering from hyperacidity, for infants, etc.?
14. Is the product one of a family, all marketed under one trade name, which would carry a distinct family resemblance throughout the line, to encourage consumers buying, knowing and using all of your products?

With this complete information in writing, and thoroughly understood, you will then be in a position to proceed with the next logical step in the development of a new package design. This will be greatly simplified if painstaking care is given to each of the following points:

Purpose: Agreement upon the purposes of the package by all interested parties, and the advantages to be gained by making a change.

Sizes: Comparative dimensions will be determined by:

1. Price unit
2. Impression to be made on consumer
3. Sizes of leading competitive packages
4. Need for individuality.

Character: Proportions and form will be in harmony with:

1. Physical nature of the product
2. Methods of use
3. Economy of production.

Protection: Package designed in accordance with:

1. Safety of contents
2. Bulk display.

Name: A. Consideration of name for product which will be immediately suggestive of its value or use to the consumer.

B. Adaptation of the package to the best possible display of the name.

Text: The greatest simplicity and display-value in:

1. Product name
2. Merits of product
3. Trade mark or symbol
4. Description of product
5. Directions for use
6. Amount of contents
7. Maker's name
8. Suggested price.

Decoration: A. Harmonious and attractive color scheme.

B. Simple and consistent decorative pattern.

Through this simple analysis you have broken down your product, its appeal, or appeals, its market and its possibilities into its component parts, and are now ready through the corollary of analysis—synthesis—to combine these separate, though related, elements into a united whole, in the form of a new package.

The logical method of doing this will be:

1. Taking the size and proportions determined in your analysis you can now have a mechanical dummy made of the proposed new package. This may be the same as your present package, larger or smaller, based entirely upon the facts discovered.

2. The actual package design may now be developed from:

(a) The "reasons why" consumers should and will buy your product will show what illustrations, if any, should be used. If your product happens to be a food, which is bought because of its appetizing goodness, you will probably find it well to illustrate it in terms of its delicious, ready-to-be-eaten qualities.

(b) The very nature of the product, its uses and its potential consumers, will determine the most pleasing and appealing colors to be used. While products intended for men may be packaged in strong, dominant colors, it is well to remember that women prefer the softer, subtler and more

delicate tints and shades, on the packages they buy for their personal use.

(c) The text or copy will set forth the name of the product, the trade mark, and the major advantages to be found by the consumer in the use of the product.

(d) Directions for use, net weight, maker's identity, and mention of other products in the line, will then follow in a subordinated position on the package.

In this thorough and simple manner an intelligent study may be made, either of an already existing package, or a brand new one. On completion of the new package, in the form of an artist's sketch, and prior to placing an order for its commercial production, it may be found desirable and valuable to conduct certain tests to substantiate your own judgment of the improvements made. Four sources are available:

1. If the services of a package designer have been used, he will submit a critical analysis of the old package, the requirements for the new one, and you can then make a comparison to determine if the new design fulfills its mission.
2. The opinion of your associates connected with you in your own business. Care should be exercised that each understands the basis on which the new design was created, and the exact advantages sought, so that "snap judgment" may be avoided either for or against the new package.
3. Those vitally concerned with the sale of your product, as represented by your own salesmen, jobbers, dealers and clerks, while not qualified to act as experts, can nevertheless readily appreciate improvements in packages, and it is no more than good business to secure their whole hearted interest, which will prove valuable in "cashing in" on the improvements made.
4. The judgment of the ultimate consumer is most important, for if the woman-consumer approves she will buy the product *on sight*, and if she disapproves she will completely ignore it. A limited test among logical consumers is exceedingly valuable when bringing out a new or redesigned package.

The new type of package that profitably performs its part in the complete selling job, is built on facts, and while utilizing the ideas of the artist, it is an expression of merchandising, rather than a display of artistic ideas.

No business man is so important that he can afford to ignore his packages. Every executive can well afford to spend time, effort and money redesigning.

SIZE AND SHAPE

THE SIZE AND SHAPE of the "ideal" package for any given product can only be determined by a consideration of a number of different factors. These are not of uniform importance in all cases. As a matter of fact, each case will require its own highly individual treatment, because of the particular and peculiar characteristics, present or claimed, in each product as compared to even identical, competitive products.

While ready visibility of product name may be of prime importance in one package, which, because of the consumer advertising support placed behind it, is assured prominent display at the point-of-sale and hence needs no other force than identification to consummate sales, the factor of strict economy in materials and fabrication may be all-important in another package which places its claim for consumer consideration and purchase on its larger volume for the same price, or a substantially lower price on similarly sized units used by competitors.

However, while it may be expected that certain factors will completely outshadow others, this does not minimize the importance of giving thoughtful consideration to them all, to the end that the package may be practical, economical and a suitable sales tool.

Factors affecting the size and shape of packages may be broken down into five major classifications:

1. *Economy in materials and fabrication.* While the physical nature of the product will immediately set the limitations as to types of packaging materials available, and to that extent lead to individual selections, yet the basic consideration of using a minimum of material to package a given quantity of merchandise will be found to hold true in all cases. The cylindrical container takes advantage of the low-circumference, high-area ratio of the sphere, which is well known to enclose the greatest volume per unit of surface, but is impractical for packaging. In the case of bottles, tin cans and fibre cans, the material lends itself well to cylindrical construction and the incidental savings in materials. In the case of cartons, set-up boxes and outer containers, it should be remembered that the closer a package approaches a cube in shape, the less material will it require. Novelty-shaped packages may be used in an effort to secure "something different" but only, in the majority of cases, at a sacrifice of economy in materials and standard methods of fabrication.

2. *Ease of filling and sealing.* The ready adaptability of a package to practical production operations is of tremendous importance. Even though the immediate operations are performed manually it is well to anticipate the time when semi- or entirely automatic equipment

will be necessary. Some types of packages, such as display containers, are made in a wide variety of styles, and selection should be limited to those types which can be set up quickly and efficiently by average workers, so that production costs may be kept well in line. The cooperation of packaging machinery manufacturers should be sought so that the packages may be made in sizes and shapes adaptable to existing machines.

3. *Convenience and economy in shipping.* While it is entirely possible to secure shipping containers offering adequate protection to products packaged in odd sizes and shapes, this does not promote economy and, other factors being equal, should be avoided. There are a number of standard sized shipping containers and, if possible, the individual package, whether of glass, tin, fibre or paper, should be made in a size that will fit one of these standard sizes. Making certain that specifications for the original package and the outer shipping container are developed together, so that they will synchronize, is no more than good package planning and procedure, yet it is all too often neglected.

4. *Suitability for store display.* Many a package which looks grand on an executive's desk at the factory fails completely in actual use because no attention was given in planning it so that it would fit in with the habits and facilities of retailers for displaying packaged merchandise. While there is a deplorable lack of both standardization of shelf and counter sizes and shapes among retailers, and no authoritative data on any phase of shelf, counter and display window dimensions in use by the various classifications of retailers, it is self-evident that no package can be adequately planned without some specific information on this important subject. Thus it becomes necessary for the individual manufacturer to visit as large a number of retail stores as possible, and by gathering and studying assembled data arrive at proportions which will fit both the physical space available and the mental disposition of the majority of prospective retailers toward the display of merchandise of like nature.

5. *Merchandising.* The size and shape of a package have potential merchandising characteristics, such as: (1) ease of establishing product name and trade mark identity by the way they are handled in the available space and the resulting visibility and legibility which is secured; (2) creating the desired impression on the consumer, whether it be "getting her full money's worth" from a volume standpoint or the opposite view of exclusiveness, extreme high quality and rarety; (3) favorable comparison with well-established competitive products, which may dominate the field and offer stubborn and substantial resistances to be overcome by the newcomer; (4) ease of examining the product, prior to actual purchase, without marring the beauty and harmony of the package; (5) suitability of the package for storage in the consumer's home such as in the bathroom medicine chest, in the pantry or on milady's dressing table, and (6) accessibility of the product in desired quantities, such as convenient pouring spouts, with convenient methods of reclosing the package and safeguarding against contamination and waste of the unused portion.

COLOR

by GEORGE WELP

COLOR is a sensation which requires no conscious struggle of the intellect to appreciate. It does more than stir up objective stimulations. Color creates emotional responses and arouses definite associations.

Like the familiar moonbeams, every color has a meaning all its own. Red conjures up associations of warmth; blue connotes coolness. Green means freshness; it stirs memories of springtime, of woods, or lawns or country fields. Reds and oranges are fighting colors; they mean action, anger, blood. The flag of revolution is red. Blues and greens are soothing colors. They are calm and serene.

Because colors have very real implications and because they bring a naturalness unattainable with plain black and white, colors are important as a selling tool. A picture of coffee has much more sales appeal when printed in its natural, rich brown, then when reproduced in cold unreal grays and whites. Color adds life! It imparts a reality and an animation that not only attracts attention but increases the appeal.

Color classification and measurement, until very recently, has been a rather indefinite business. But there is one very exact yardstick which is of use, and that is seeing what color can do for your sales.

Merchandising men are no fools. They are quick to drop non-profitable packaging techniques. So there is no surer proof that color does sell package merchandise than the tremendous increase in the use of color.

During the past few years package re-styling which had at one time occurred only once in the lifetime of a company now often happens as frequently as every year.

The effective use of color in packaging is unquestionably worth all it costs when it is right; but it must be right. The designing of color for packages involves a fundamental knowledge of color, familiarity with color relationship principles, an understanding of the mechanical limitations of presses, papers and inks. The principle of color relationship is the subject closest to the heart of the man about to redesign his package. The selection of colors to suit a given design is important.

However, the packager should keep definitely in mind that the accurate definition of design is *intent* or *purpose*. Obviously, therefore, color relationships to suit every purpose cannot be reduced to a set of hard and fast rules. To satisfy the standards of good taste, the talents of a reputable designer must be employed, but beyond the standards of good taste, the demands of good merchandising must always take precedence. This is not to advocate atrocious design or bad taste in either design or color, but it most definitely discourages the use of good taste in either design or color merely for the sake of satisfying some individual's esthetic opinions.

When everything on color relationships is said and done, the test which a good color scheme must ultimately meet is the degree to which it increases demand for the product it embellishes. It will do no good to explain that the package is a perfect example of complementary contrast if declining sales are in uncomplementary contrast to last year's figures.

Various systems for notation and color relationships have been put forward. Each has its defenders and disciples. Out of these can be culled a few dependable ones which are subject to the least controversy and which can be employed by the novice with only a limited knowledge of color. The first color need of the package designer is a description of a single color.

To describe color completely as it is seen by the eye, it is necessary to use three dimensions. Just as in measuring a box we give its length, width and depth, so too in measuring color, we include three dimensions. *Hue*, *Value* and *Chroma* are terms most often used to describe color as seen by the eye.

Hue is the quality by which we distinguish one color from another, as red from yellow or yellow from blue. Value is the lightness or darkness of a color as compared with a scale of grays from white to black. Chroma is the strength of a color, or the quality by which we distinguish a strong color from a weak one, or from one that is "grayed."

To apply these three dimensions we first describe the hue of a color, as green, then designate value, or the lightness or darkness, and to complete the description, give its chroma, whether it is a rich green or a grayed green.

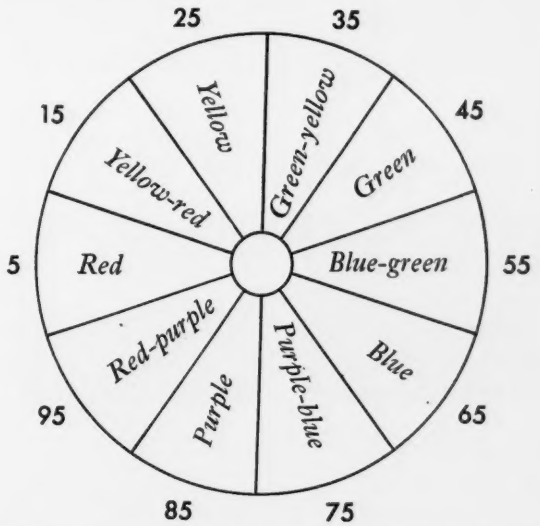
A primary consideration in the selection of package colors is visibility and legibility. The principle to be observed here is that of sufficient contrast in value. Value differences without regard to hue or chroma may make or mar the result. Value contrast will make lettering or type for example legible or illegible. A color of middle value will be least distinguishable on a color of equal value and the greater the contrast in value, the greater the legibility.

In this connection, bear in mind that simultaneous contrast affects value contrast. A neutral gray of middle value appears lighter against black and darker when contrasted with white. The same thing holds with any given hue.

The question is frequently raised in connection with a package design, "Is it in color balance?" There is a principle known as the doctrine of chromatic equivalents which aims to establish color balance in a design. Based on the fact that white light is composed of all the spectral colors in certain proportions, this theory maintains that in order to be in perfect balance, the chromatic elements of a design should be adjusted so that if all the constituent colors were mingled on the retina, a neutral gray would be achieved. No hue would then be noticeable. This can be demonstrated by placing segments on a disk in the proper proportions and spinning them rapidly on a wheel. If they appear to the eye as a sensation of neutral gray, the design is said to be in balance.

To achieve this in a design, the areas of one color to be used with another or the areas of many colors in combination should be determined by the power of the colors employed. For example, if we wanted to use a combination of a middle value yellow-red of fairly strong chroma with a blue of a low value and weak chroma we would use a much larger area of the blue than of the yellow-red. In all principles of color relationship areas of white, black and gray are considered neutral and are ignored.

The general principle covering the areas of color in a given relationship may be stated thus: A color of stronger chroma and higher value should occupy the smaller area and a color of weaker chroma and lower value should occupy the greater area. This does not mean that a good design could not be built using a reverse method but it is fairly safe to follow the rule.



Complementary hues, the strongest contrasts at equal value and chroma, are found opposite on the hue circuit. There is therefore a difference of 50 in the numbers of complementary hues. For example, 16 and 65 are complements

In selecting colors for various purposes, certain rules may be followed. It will be helpful to refer to the diagram showing a chromatic circle of ten hues. The name of each color is in its proper position so that the complementaries are opposite.

The simplest use of color is the monochrome, by which one hue alone is used in its many combinations of value and chroma. It may be used alone or with white, gray or black. The Sunday rotogravure illustrations offer the most familiar examples of monochromes.

Remember that while genius may work in violent color combinations, those of lesser talent should not flirt with the disaster which often accompanies such experiments. Satisfactory results may be achieved if we use colors of low values and weak chroma for our larger areas and contrast the small areas with colors of high value and strong chroma. While this safe rule may not always produce real distinction in the use of color, it will avoid many atrocities.

Sometimes, there may be an inclination to suspect that rules will destroy all personal color sense, but taste in color has a way of asserting itself quite positively.

In the selection of color ask these questions. Is the color appropriate to the product packed? Is there resistance to certain colors in your particular field of selling? Does the color give high visibility on display? Is the name legible and the typography simple and easy to read? Is the color distinctive from competitor's packages? Does the color selected help to make your package easily remembered? Does the color help or hinder the design? Have you selected colors which are capable of conversion into inks which will withstand the chemical action of the product; impart neither color nor odor to the product; will not rub, fade or check, and do full justice to the design?

If the colors you have chosen successfully meet these qualifications, you have done your job well.

Note: The material on which this article is based will be found in greater detail in "Three Monographs on Color," "A Guide to Color" and "The Ugly Duckling," published by The International Printing Ink Corp.

TYPOGRAPHY

THE ALPHABET of the English language is composed of twenty-six characters, or letters, representing some forty-five sounds, which are used in various combinations to give us all the words we use in written or printed language. These characters originated in prehistoric times as each primitive race attempted to perpetuate its history or legends by scratches or crude drawings placed on the walls of caves, on stones or the bark of trees. Eventually these drawings stood for particular objects, later being conventionalized to stand for various sounds. The Phoenicians are credited with developing the first alphabet, although the Romans made the largest contribution, their beautiful capital letters, though nearly two thousand years old, still being the models for our modern Roman letters.



All type set-up, on carton panel, shown upper left (Girder Bold and Gothic 529) while upper right shows hand lettered name with Gothic 529 for description. Bottle labels shown at bottom with Futura Light and Bold types contrasted

While illustrations are frequently used on modern packages, such as an appetizing full-color illustration of an angel food cake, the majority of information about a product must be conveyed to the mind of the potential buyer through the use of lettering, either hand drawn or type. It is important therefore that some knowledge of typography be understood and used in the selection of the lettering which appears on the package, so that these "word pictures" may be readily seen, and prove sufficiently interesting to be read.

Since the modern package is recognized as a sales tool, and not designed as "a work of art," the general characteristics of well-chosen package lettering will be simplicity, visibility, legibility and character. Obviously certain products require a more restrained and con-

servative treatment than others, such as a standard, ethical pharmaceutical as compared to some new automotive "gadget." The character of the product should be subtly reflected in the typographical treatment of the package, so that in our choice for an exquisite perfume, delicacy, beauty and harmony would predominate, whereas with a hardware store item, such as a saw, rugged strength would be the quality we should seek to express through the type.

No discussion of typography, as applied to packaging, would even approach completeness, without some consideration being given the various kinds or divisions of copy considered necessary to appear on the package, as well as the available spaces. Package copy may be divided into eight parts:

1. Product Name
2. Trade Name or Mark
3. Maker's Name
4. Merits of Product
5. Amount of Contents
6. Directions for Use
7. Additional Uses
8. Other Products in Line

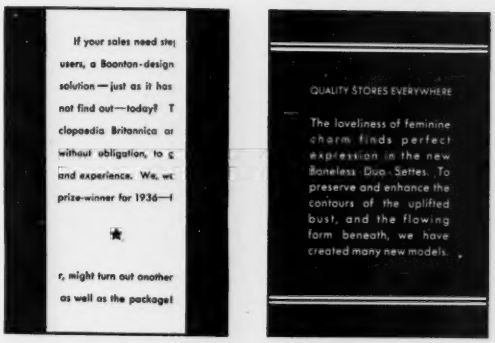
Taking a folding carton, as an example of a popular style of package, we find six different spaces wherein copy may be placed: (1) Front or main display panel; (2) back panel; (3 and 4) side panels; (5) top panel; and (6) bottom panel. Inasmuch as most cartons are displayed with the front panel exposed, on the shelves of our retail stores, this means that this space in some ways resembles a billboard, so that whatever copy appears thereon must be fairly visible from a distance of several feet. This copy is usually confined to the product name, trade mark, net weight and brief slogan or description of the advantages of the product. The back and other panels are normally viewed at arm's length, so there is no necessity of making the copy appearing on them shout. The back panel may well be reserved for the following: Detailed description of the product; directions for use; additional uses for the product, and maker's identification. The two side panels may be used to get over short pointed copy descriptive of the product's usefulness. The top panel should be kept as clean and free of copy as possible, for if complete identification is included thereon, dealers may be inclined to stack the



Typical specimens of names which demand hand lettering to secure individual effects shown

cartons with only that panel exposed to the view of prospective customers, thereby robbing the front display panel from the accomplishment of its task. The bottom panel, or base, is frequently utilized for listing other products in the line, which it will pay the consumer to buy and use, or for coupons or left without any printing. It will be apparent that greater emphasis must be placed







Can labels shown at top, Signal Bold with Girder Light (reversed) at left, with Beton Open and Futura Bold type faces at right. Next two illustrations show back panel treatments, Futura Medium being satisfactory either black on white or reversed. Types which are too fine to use reversed: Lucian Open N; Bodoni Bold A; Corvinus Medium N; Bernhard Roman D; Goudy Oldstyle E; Trafton Script H and Egmont Medium T. Type faces excellent black on white or reversed: Signal Bold upper case D and lower case e; Futura Medium N; Franklin Gothic M; Stellar Bold R; Styme Extra Bold E; Beton Extra Bold K and Girder Bold G

on certain parts than on others, for if all were given identical treatment the result would be monotonous and confusing, with the result that it would not be read.

Securing emphasis through type is accomplished by the use of comparatively large types for the most impor-

tant point or points, as contrasted with smaller, finer types for those of lesser importance.

All types, whether they be of ancient or modern origin, may be classified as either Bold Face or Light Face, to readily distinguish between them. Bold Face types are generally used on the larger sized packages, and for products which are noted for their strength, sturdiness or other utilitarian values. The Light Face types, on the other hand, are used on the smaller, finer packages, where sheer dominance is not desired, but where beauty and character are essenial to prove the high quality of the luxury product. While both soap flakes and cosmetics are bought by women it will be readily appreciated that the appeals for them differ, and hence call for far different typographic treatments of the packages.

The accompanying illustrations, which are theoretical rather than actual commercial packages, will serve to show the atmosphere and mental impressions created by both Light and Bold Face types. In each case the type faces selected are in regular commercial use, and are available in all parts of the country. They serve to show how the front panels of boxes, bottles and cans appear, both in Light Face and Bold Face types, feeling that this is a more enlightening method of making our point than simply describing them.

Another method of securing emphasis is through the use of reverse letter printing, that is, rather than having the type appear in black on white, it appears in white against a black background. In the illustrations of the back panel treatments are shown the relative effects of these two methods. But many a type which is beautiful when printed in black against white loses its charm when reversed. Thus, note the effect shown in the accompanying illustrations of the N, Futura Medium face which is legible and attractive in its regular use and in reverse, as compared to the N, Lucian Open face which is excellent in regular form but through filling up with ink, in the printing processes, is totally unsuited for reverse letter printing. The obvious answer is to select clear, simple types, when reverse letter printing is desired.

There are numerous cases where it is highly advisable to use hand-lettering, rather than attempting to use type for everything on the package. Certain products which have been on the market for years are known by a peculiar trade mark, done in script, block or some other special lettering, for which there is no corresponding type face. Furthermore, it may be desirable to suggest coolness, speed or some other characteristic of the product, through the lettering, and this can only be done with hand-lettering. In such cases, the problem is not to substitute machine type, but to have the product name hand-lettered and then utilize a type face for the balance of the copy which will be harmonious, and balance with it. An excellent example is shown herewith of how to secure this unity of design between hand-lettering and machine-set type.

While there is no effort to make this a professional or scientific discourse, it is to be hoped that sufficient has been said to encourage further study of typography to the end that it may be skillfully employed in the designing of packages which will prove profitable because they are seen and read and bought.

PACKAGE DISTRIBUTION

BETWEEN the design and production of a new or replanned package and its introduction to the consumer lie a series of merchandising problems which, while applying with differing emphasis to different situations, nonetheless appear to greater or less degree in every instance of such package change. These may be summed up as follows:

(1) The problem of physical distribution—of getting the new package into the store.

(2) The problem of minimizing or eliminating losses in disposing of old stocks and the kindred problem of speeding up the disposal of such stocks.

(3) The problem of retaining all possible news value pertaining to the change and of capitalizing upon the change both with the jobbers, dealers and sales clerks and with the consuming public.

Within the compass of the first problem, arises the question of method to be followed in introducing the new merchandise. Should it be introduced simultaneously in all localities? Should the design change be made in several stages or should it be achieved in one jump? Should the change be made when dealer stocks are low or when they are high?

The method of greatest factory convenience would naturally call for making the change by the simple expedient of shipping out all of the old packages in process and in stock and then starting to ship the new merchandise as ordered. However this method would result in tremendous confusion on the part of both jobbers and dealers, in the creation of "shelf orphans" in the person of old packages lying on shelves while the new were being sold. Such unequal dates of introduction throughout the territory served would create dealer ill-will (among dealers having stocks of the old package) and complete loss of all the news and advertising values of the new package.

Hence good practice has always called for an attempt to *achieve simultaneous introduction over a large territory if not over the entire national market*, even though this may involve additional trouble and expense.

To achieve this, several methods are available. In the introduction of its Grape-Nuts package some time ago, the General Foods Company adopted the "equalization" method—shifting stocks among jobbers so that each would have an absolute minimum of old merchandise on hand at the time for introduction of the new package. Such "equalization" has also been practiced among dealers; is, in fact, practiced daily in the case of perishable products such as bread, but its most practical application when a package change is involved is among jobbers. It is best used when the product under consideration is light in weight, thus minimizing freight and packing charges; when jobbers are close together, reducing the length and cost of the haul, and when the demand for the product is fairly steady. In this way an approximate date for the exhaustion of all stocks can be set in advance.

Such equalization is particularly easy when the outlets for the merchandise are controlled by one or by a few central offices. Thus, the Great Atlantic and Pacific Tea Company had little difficulty in introducing its redesigned coffee packages because it could effect transshipments of merchandise from store to store without the cooperation of outside agents.

A second—a more usual—method calls for stock control initiated by the manufacturer's sales force. Here the salesman, being aware of the dealer's usual sales volume, is called upon to hold his orders down to the point where all stocks of the old package will tend to become exhausted at precisely the moment when the new package is to be introduced.

While this method is the one most easily practiced, it suffers from a number of drawbacks. First of all, it converts the salesman into a "non-salesman"—forces him to cut down orders rather than to encourage their increase in size. Secondly, it involves the danger of stock exhaustion in some stores prior to the date of introducing the new package. The loss of sales may here be negligible, but the loss of goodwill on the part of the dealers who lose the sales (because of the over-ruling of what they will maintain was their better judgment) is often too great to be risked.

A third danger lies in the loss of the dealer's interest in pushing the merchandise. The manufacturer who fails to urge the dealer to buy, certainly cannot expect his dealers to press the sale of the product and, in such cases, the dealer will tend to ignore the reason for letting up on sales pressure while seeing only the bare fact of the let-up. Finally, there will develop a decided tendency, on the part of all dealers, to avoid special promotions of the product because of the danger of running short of stock. Clerks will tend to be instructed to limit purchases to one to a customer instead of being asked to try to sell the one-package purchaser two, three or a half dozen of the article.

In spite of its practical and psychological disadvantages, this method is popular because it minimizes the amount of stock left after the new package has been introduced. It throws the major burden of effecting the change upon the dealer's shoulders instead of on those of the manufacturer. Hence the decision on the use of this method depends largely upon the type of dealers handling a given product. If they are limited in number, if they consist of large organizations willing to cooperate in effecting the change, if their merchandising methods are uniformly high and progressive, the method will work well. If, on the other hand, they are typical of the vast army of one-man, small stores, the utmost caution will be necessary if manufacturer-stock-control is to be attempted.

Another means of effecting a package changeover calls for the exchange of old merchandise for new at a given date. This is very seldom followed because it would involve a tremendous loss in freight, damaged goods, repackaging, overhead and other charges. In fact, confronted with the alternative of re-packaging already-packaged merchandise and throwing it away, the average manufacturer will find the latter less expensive.

However, the guarantee to purchase left-over stock may be combined with the stock-control method to achieve a solution better than either method alone would afford. Stock control would be relied upon to keep repurchases at a minimum. The guarantee would remove all restrictions and inhibitions against promoting sales both on the part of the manufacturer's sales force and on the part of the dealers' staffs. And the danger of left-over stocks plaguing the dealer after the introduction of the new packages would be removed.

Some firms resort to intensive promotion of sales through advertising in an attempt to quickly deplete stocks. Notable, as an instance of this sort, is the radio campaign used by the Pacific Coast Borax Company in which premiums were offered for box tops just prior to the introduction of the new package. This method, however, has distinct limitations. It does not guarantee equal sales to all dealers and, even less does it guarantee the unequal sales necessary to exhaust all stocks in all outlets at approximately the same time. Hence, others resort to a modification of the method, providing individual dealers with special promotional material in cases where they are falling behind in stock disposal. The one precaution to observe, is to see that such special promotion does not take the edge off the promotion based upon the introduction of the new package, which must follow shortly thereafter.

It will be seen that all these methods, with their varying advantages and disadvantages, involve a certain amount of friction and extra work on the part of both manufacturer and dealers. This can, of course, be minimized, by careful planning. However, because of this friction and extra work, the balance is all in favor of reducing package changes to a single operation. If the method of gradual change—over several stages—is followed, dealers will be called upon to exercise more effort than even the most understanding of them will consider worthwhile.

It is true that failure to dispose of all the packages in a given period of transition, prior to the introduction of the packages of the new stage, involves less danger of "orphan" development, because the difference between stages is slight. But, all too often, it happens that

packages left behind in the first stages of change remain on the shelf during the entire process, only to be returned as unsalable, months after their manufacture has ceased and their existence, even, forgotten. These disadvantages—added to the complete loss of news-value which the gradual method involves—combine to make "gradualism" inadvisable in almost all cases. If a change is worth the making the new package will be news, to be blazoned forth in bold pictures and headlines.

One method which has been followed with marked success in the case of Luxor face powder (and which seems likely to be used in many more instances in the future), calls for the use of a dual package. The new package is wrapped within a printed covering reproducing the appearance of the old. Hence, distribution can be carried on over a long period of time, since all packages will look alike on dealers' shelves. Consumers will have time to become acquainted with the new design under the old. When, finally, it is decided to make the change complete, notification is sent to all dealers to remove the outer wrappers and—at the same moment—the new package makes its appearance.

While this method almost completely eliminates all the headaches of "equalization," manufacturer control of dealer stocks, special promotions and "buy-backs," it likewise eliminates the news value of the package change, at least insofar as old and steady customers are concerned. Since, however, the news value of a package change, unless it involves a decided improvement such as added convenience features, is most important among new consumers, this danger is not so great as it might seem at first glance. The method seems to combine the advantages of gradualism with the simplicity and inexspensiveness of a speedy changeover. It cannot, of course, be followed where package shape is changed.

The question of the best time to make a change—when stocks are low or when they are high—will depend largely on the nature of the product. If it is a highly seasonal one, it is obvious that the time to make the change is the beginning of the manufacturer's selling season. Stocks being low, the amount of merchandise to be controlled, taken back or pushed out through special sales will be held to a minimum.

Consequently losses, friction with dealers, the amount of dealer cooperation required and the period of time taken to complete the operation will all be cut to the smallest possible amount at this time.

If, however, the product is one having year-round sales but a seasonal peak, it is sometimes desirable to move for a change at the time of the peak, so that dealers can most quickly dispose of their stocks. High stocks here indicate heightened velocity over the country and, in the period when such velocity is highest, the possibility of moving stocks a bit faster is likewise higher. It must, however, be remembered that dealers are least willing to cooperate during their busy seasons. In most cases, therefore, the first of these two methods will be found the better.

The question of making the announcement of the package change will naturally arise whenever such a change is considered. Such an announcement must break down into two parts—that going to dealers and that intended for the general public.

In the case of dealer announcements, best practice calls for six to eight weeks' notice of a change. This permits of the dealer's making plans for disposal of old merchandise, for stock control and for rationed purchases. Any longer period will tend to take away a great deal of the dealer enthusiasm when the new package finally makes its appearance. Some manufacturers break their dealer announcement down to two stages. In the first they emphasize the distribution of the old stock. In the second, they bring forth the advantages of the new package so as to prepare the dealer for enthusiastic acceptance within a short period of time, and thus keep his enthusiasm at a high pitch at the moment of introducing the new product.

Consumer announcements—which, if the package change was at all worth doing, should be in the nature of big news worthy of bold, prominent promotion—should be timed for the exact moment at which dealer stocks of the new package achieve complete distribution. If announcement is made too early, its force is lost when the consumer enters the store and finds old packages still being offered. He or she naturally blames the innocent dealer for attempting to foist old goods upon his customers. And the dealer naturally resents the ineptness of the manufacturer who advertises merchandise he hasn't yet distributed.

If announcement is delayed for any period, while the merchandise is making its appearance on shelves and in windows, it not only fails to start the goods moving as soon as they reach the dealer, but it also loses much of its value as news because the package will already be "old stuff" to many consumers. Moreover, dealers will have difficulty in convincing some consumers of the genuineness of the new product unless advertising and promotional campaigns are timed closely with introduction on the shelves.

Closely related to the question of promotional selling of the old package is the question of cutting its price to achieve faster movement. While the cost to the manufacturer of such a cut (for only the manufacturer can be expected to assume this cost) is slight, its advisability is debatable because return to the original price will be a decided handicap for the new package. If, however, the new package involves a change in size, this problem is reduced in importance, though by no means eliminated. Where size changes are the major part of package changes—as happened recently throughout the tooth paste field—the changeover is made most easy by introducing the new size alongside of the old at a higher price, then discontinuing the old and cutting the price of the newer, larger package.

In some cases, manufacturers have resorted to the repurchase of old stock and its subsequent sale through a different type of outlet. When this method is followed as a means of retrieving part of the cost of repurchase, it is advisable to introduce some dating feature into the new package's design, so that regular dealers will have

some measure of protection against old stock which may appear in their locality. This of course lowers the resale value of the old stock, but it does protect the regular outlets to some extent. In general, the dangers involved in such attempts at salvage are hardly counter-balanced by the small sum thus retrieved with this method.

The question of regional or national changeover has its proponents on both sides of the fence. Those in favor of a regional change point out the possibility of moving merchandise gradually from east to west, or north to south, in "equalizing" stocks. Those in favor of the national changeover, point out the overlapping, the loss of news value in this day of wide travel, the long time necessary and the need for maintaining a factory line for both old and new packages. The odds seem to be in favor of a national change for all nationally advertised products, except those which have a moving season, such as sunburn lotions which sell earlier in the south than in the north. Where distribution is limited to a few separated areas—for instance to large cities such as New York, Cleveland and Chicago—the localized changeover can be effected without overlapping dangers and with consequent savings through movement of stock from territory to territory. The advisability of such movement still remains, however, dependent upon the fragility, the weight and the condition of the product and the distance it is to be shipped. The method, even in such situations, has application mainly among jobbers and chain organizations.

It may seem, from the foregoing, that the introduction of a new package involves so many hazards as to make its consideration something to be long delayed. Yet such is not the case. Difficulties have here been pointed out because they must be appreciated to be overcome. But the manufacturer who hesitates because the difficulties exist, has merely to look to the number of others in his field, who have easily overcome these difficulties, to understand that advance planning can reduce them to negligible disadvantages which cannot possibly counterbalance the advantages to be gained when a package change is called for by sales conditions.

Balancing every difficulty of action is a corresponding and greater difficulty of inaction which makes a failure to effect a needed package change—merely because of the care necessary in getting the package into circulation—an extremely costly matter. The moral should read: "Make your changes and make them right, then they will quickly repay the cost of giving your dealers a break during the transition period."

Furthermore, a change in a package, if it is one which is sensibly planned, will receive a favorable reaction from most dealers because of their recognition of the greater consumer appeal which the new package will have. Therefore, the manufacturer can count on the support of his distributors during the period of replacement of the old stock. There are but a very few instances where difficulties have been encountered in such changeovers, and these have been the result of poor planning or an unreasonable attitude on the part of the manufacturer toward the dealer. It is believed, however, that the suggestions included in this article cover all of the general cases that may occur.

COLOR PHOTOGRAPHY

by ROY KNIPSCHILD

A GLANCE through the advertising pages of any of the national magazines reveals that within the last few years advertising illustration has really begun to capitalize on the selling power of color. Page after page greets the eye with the warmth and richness and brilliant sparkle of color, brought to the printed page in all its allure through a development which is known as direct color photography.

Direct color photography, from the standpoint of this discussion, refers to that photographic operation by means of which four color negatives are obtained from a colored subject—not for the purpose of producing an actual photographic print in color but for use in making color printing plates so that the subject can be reproduced almost an unlimited number of times. How these color negatives are obtained and how they are used in making color engravings will be explained later. What is of greater concern at the moment is the phenomenal growth in popularity among advertisers of this process and its outstandingly successful application not only to advertising illustration in publications, but also to all forms of direct advertising, such as folders, booklets and broadsides. Why has direct color photography grown in favor and what are the reasons for its use by an ever-increasing number of well-known advertisers?

One needs only to look at a direct color reproduction to see why this method of illustration has won almost immediate acceptance. Here are rich color, sparkle, detail and a three-dimensional quality that immediately distinguishes direct color from any other color process. But more than this (and here is the key to its popularity among advertisers), direct color illustration today has hurdled the one barrier that has confined its use in the past: it now includes, as part of the picture, living, human beings *in action*. Gone forever is the static picture. Products are shown in use—being worn, eaten, drunk, played with, listened to, driven

by Mister and Mrs. John Public. Perishable products, such as candy, ice cream or butter, which quickly melt and change their physical appearance under the heat-producing studio lights, can now be portrayed with all the crispness and freshness they have the instant they are removed from a refrigerator.

What has made possible this tremendous advancement in direct color photography? The answer is *speed*—the speed of exposure made possible by a new type of color camera. This new camera, known as the "instantaneous exposure" or "one-shot" color camera, is so constructed as to be capable of exposing simultaneously three color negatives (for the primary colors, yellow, red and blue) in a fraction of a second. An ingenious arrangement of filters and mirrors which reflect the image as it passes through the lens to the various negatives makes possible these "snapshots" in color, obtainable at high speed.

In order to understand the role played by these negatives in the production of the color printing plates, perhaps it would be best at this point to indicate briefly the plate-making process. The color separated negatives obtained through the use of the "one-shot" camera are continuous tone negatives, unbroken by any printing screen. But they are translated into halftone color printing plates by the "9-negative route" or "indirect route" which is a standard photo-engraving process used for several decades by good photo-engravers for certain types of subjects and conditions.

From this short resume, the reader can see that the primary interest of those who produce direct color reproductions is not in obtaining a color photograph as much as it is in securing a set of color negatives. It is possible to make a photographic print in full color from the color negatives obtained as described above but such color prints are necessarily only where the client desires to emphasize certain features of the subject by retouching, where art work or lettering has to be made an integral part of the finished reproduction, or where extreme accuracy calls for the approval of those who are accustomed to approving drawings and paintings and who therefore feel the need of visualizing something more tangible than the photographer's transparent media.

Any explanation of the use of color negatives in the making of color printing plates would be incomplete without some mention of the color transparency. A color transparency consists of prints made on thin celluloid of each of the three color negatives. Each of these celluloid prints is dyed with the color corresponding to that of the negative from which the print was made. These prints are then superimposed over each other in perfect register on a piece of glass and taped firmly in position. The result is a color image which when viewed against a light indicates not only what the color reproduction as a whole will look like from the standpoint of arrangement and perspective, but also indicates to a degree the color values of the finished reproduction. In its role as a color guide, the color transparency serves the color etcher as guide for his operations, and the client as an "advance proof" of what his finished color reproduction will look like. In other words, almost all of the gamble in color photography has now been eliminated.

The value of direct color reproduction for products possessing eye appeal—such as food and clothing, to name but two—lies in its ability to present to the eye the true, natural, life-like colors of the original. From presenting the sales story on the printed page in an advertisement or in a broadside to presenting the same story or appeal to the eye on a package or a label, is a step which already has been taken by a number of outstanding advertisers in this country. If direct color in printed advertising possesses the power to stimulate sales—and this has been proved conclusively by its rapid growth in all forms of advertising—then it is reasonable to assume that that same power can be made part of the package or label. In fact, this package, by reason of its presence at the point of sale, offers even a more effective medium for direct color to make its sales appeal. The public's demand for authenticity on a label or a package can now be met with illustrations of the product itself or of the product in use. And these illustrations can be produced by a method whose salient characteristic is authenticity. Color, size, shape, weave, texture, grain, finish, design—all of these product characteristics and many more can be revealed to the buyer in a manner that is at once beautiful and convincing. The same reasons which account for the widespread use of transparent cellulose packaging stand back of the desirability of direct color reproductions as a packaging factor. Transparent cellulose, however, has its limited applicability as a packaging material. Direct color reproduction, in its own way possessing many of the qualities of attention-value, of authenticity and of color display, does not have these limitations. A direct color reproduction of canned yellow cling peaches for example can broadcast its message of golden-ripeness and delicious taste on the label of a can. A direct color reproduction can even go a step ahead of transparent wrappings by portraying a mouth-watering stack of rich, brown pancakes crowned with a pat of slowly melting butter on the outside of a package of buckwheat flour, whereas a transparent window of such a package could at best show only the gray flour itself —a most inadequate selling argument.

To package designers and package buyers, the point need not be labored. To them, direct color photography opens up tremendous new possibilities for making packages and labels more effective, more capable of arousing the buying impulse. What the relationship of direct color illustration is to other elements of package design is a fascinating problem designers and artists will want to solve in their own way. The point to be emphasized here is that the judicious use of direct color photography can add to the beauty and the selling power of the package and the label—and that many manufacturers are already taking advantage of this new development in color and obtaining results that are appreciated by consumer-buyers.

SECTION 2

PAPER BOXES pages 54–122

SET-UP AND FOLDING BOXBOARD
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CARTONS AND DISPLAY CONTAINERS
RIGID TRANSPARENT CONTAINERS
CYLINDRICAL, CONICAL CONTAINERS
MOLDED PULP CONTAINERS
LEATHER AND FABRIC COVERED BOXES
FANCY WOODEN BOXES

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NOMENCLATURE—SET-UP AND FOLDING BOXBOARD

BOXBOARD as used in the commercial lines is divided into two classes: set-up boxboard and folding boxboard. Both products are manufactured on the same machine, the difference being that created by the raw materials used in each in the process of manufacture. Briefly the two products may be described as follows:

Set-Up Boxboard. The commonest form of set-up boxboard is known as chipboard. Next in quality is newsboard. These are the two basic boards for practically all ordinary set-up box work. Chipboard is made from mixed papers commonly known as paper stock. Solid newsboard is made from newspapers and is therefore a cleaner and more uniform product. Newsboard is also made with a chip center.

These boards are packed in 50-lb. bundles, and the thickness of each sheet is dependent upon the number of sheets in the bundle. However, both chipboard and newsboard may be ordered in various finishes; for instance, both products are sold in a dry finish and water finish, the dry finish meaning the surfaces are free from a high finish, and the thicknesses are termed rough, medium or two-dry and three-dry. In the water finish they run 2, 3 and 4. The two-water finish is not necessarily a smooth board; the three-water finish is considerably smoother, and the four-water finish is about the smoothest that chip or newsboard is made.

Folding Boxboards may be classified as follows:

Bending chipboard is made of mixed papers, but the two surfaces contain fibrous products, such as manila clippings, jute liners and old corrugated boxes.

Next is single manila, which is either a chip or a newsboard with a percentage of unbleached sulphite on one surface, thus making this surface a cream color bending board. Next comes bleach manila with either chip or news back, the surface being made from soft white shavings and bleach sulphite stock. The sulphite produces the bending quality.

Patent coated is produced with a news back, the surface being made from hard white shavings and bleach sulphite. This board is used for higher grade folding boxes, either printed or lithographed.

Clay coated folding boxboard is the highest standard grade available for folding box manufacture. Thus it is used widely for packaging drugs, cosmetics, liquors, cigars and other products which are sold in attractive and convenient cartons. Like patent coated boxboard, clay coated is made with a news center, on which is a liner composed of sulphite and white shavings. But on to the liner of clay coated is applied mechanically a coating the base of which is clay and casein. This surface layer is then calendered to produce the desired high finish. The result is a smooth, uniform, solid sheet, especially suitable for color printing and lithography.

One company has developed a special sheet of protective boxboard which cannot be imitated and which is said to give absolute protection against the counterfeiting and imitating of cartons used for nationally advertised products. There are four special distinctive protective marks; two of which are visible to the public at all times; and two of which are secretive marks. These marks can only be supplied on clay coated boxboard. The marks are patented and cannot be imitated.

Folding boxboards are made on a water finish, and are produced on a basis of from 1800 to 2100 points per bundle, according to the finish required. In the very common grades of folding boxboard for suit boxes and shipping containers, there is the mist board which is practically a single manila lined finish, except for the mist colors, which can be made to specifications.

There is jute lined board, which might have a chip back and the brown surface is produced from the use of boiled wood, and finally container board, which runs 60, 80 and 100 points. This board is a chip center with a 16-point jute liner pasted on either side.

SET-UP PAPER BOXES

by W. M. HILLIARD

PROBABLY all who read this article are familiar with the formula which in a few words describes a set-up box as one which is complete and ready for its contents when it leaves the box factory, not requiring the manufacturer who uses it to do more than remove the lid or cover before filling.

The set-up paper box has been made for commercial use in the United States for over ninety years, and its development from the original simple shut-over cover and telescope cover types, has been marked by one ingenious variation after another. It is the purpose of this article to illustrate and explain a number of these

BEAUTIFUL *but* WISE



"Who Pays for the Permanent Package?" SHE ASKS

Smart lady, typical of millions! She has a sense of beauty, but also a sense of value. She likes a fine package. But not if it means a higher retail price to her. She has learned that she pays more for a product when it comes in a *permanent* package — the so-called *"re-use" type of box.* And she asks herself: "Why Should I?"

That's why the set-up paper box remains the package of popular appeal: Because it combines beauty with economy. That's why manufacturers find it unwise to change to other types of packages: Because they can get the same, smart, modern effect with a set-up paper box — at *less cost.* That's why a Package by Ritchie is an effective merchandising medium: Because it gives your product a flair that makes people want it, without raising the price to more than many people are willing to pay for it.

There's a Package by Ritchie for Almost Every Type of Product, Including:

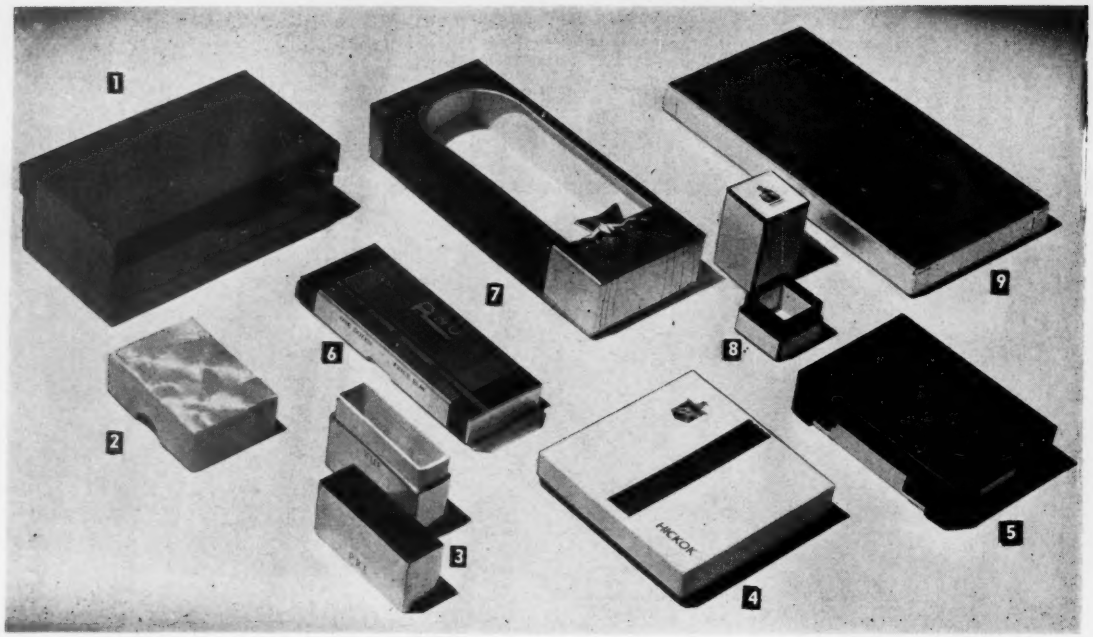
Auto Accessories	Coffees, Teas and Spices
Batteries	Drugs
Chemicals	Food Products
Cosmetics	Pens and Pencils
Clocks and Watches	Golf Balls
Granular Products	Hosiery
Jewelry	Playing Cards
Perfumes	Toiletries

Interested in Modern Packaging? Point-of-Sale Merchandising? Dealer Helps? We have valuable literature on these subjects in preparation. Be sure your name is on our mailing list. You will want this material.

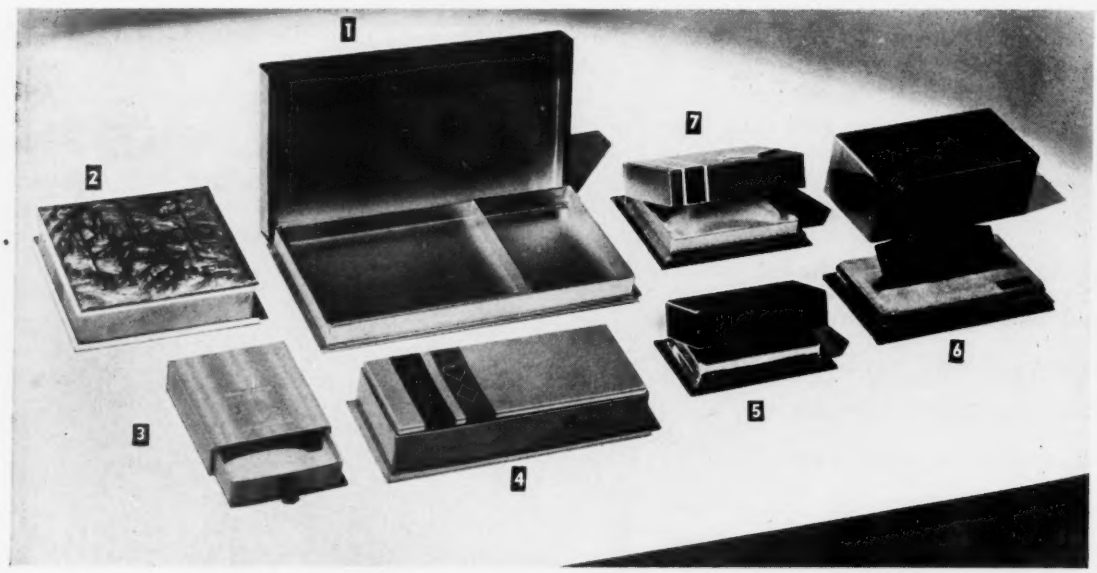
W. C. RITCHIE AND COMPANY 8861 BALTIMORE AVENUE CHICAGO

NEW YORK PHILADELPHIA DETROIT CINCINNATI LOS ANGELES ST. LOUIS MINNEAPOLIS FT. WAYNE

XUM

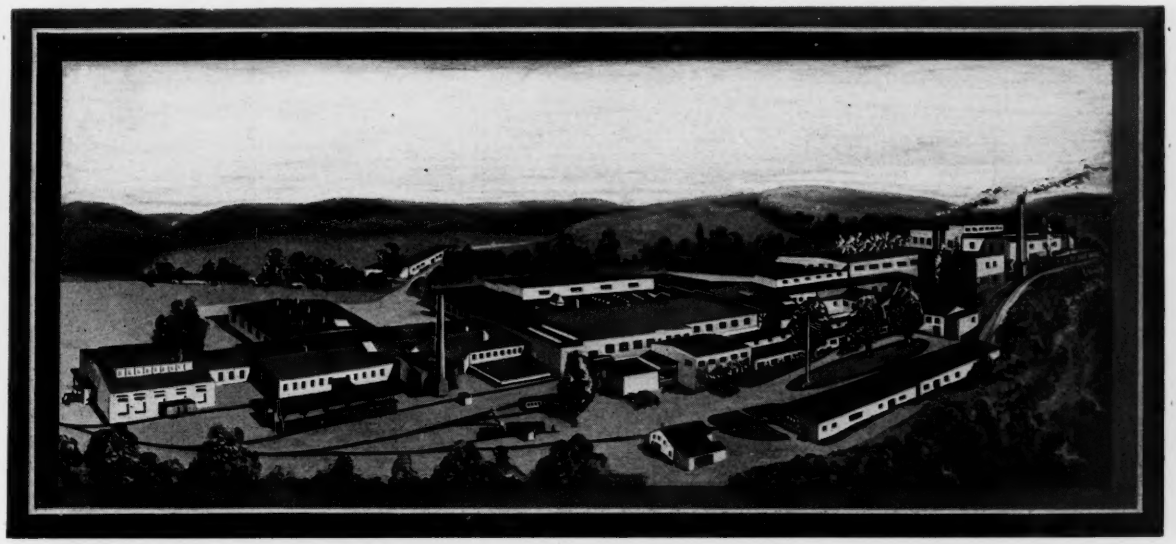


No. 1, with shut-over cover, and No. 2, with telescope cover, show the original simple types which still lead in volume produced and used over all other types of set-up boxes. No. 3 is the so-called shoulder style—cover and base have same length and width and there is a form inside the base over which the cover fits. No. 4. Telescope—cover sets over base, but extends not quite to the bottom of the box. No. 5. Full telescope with decorative cut-outs in sides of cover. No. 6. Full telescope style with cover wrap turn-in on two sides, loose and gummed so it can be used to seal the box after filling. No. 7. Partial telescope box with top cut away as part of a design idea. No. 8. A further variation of shoulder type box. No. 9. The simplest, least expensive type set-up box, plain board scored, corner cut and stayed



No. 1. Extension edge base, telescope cover style. No. 2. Telescope style box with extension edges on both cover and base, also a padded panel top. No. 3. One type of the slide or sleeve cover style. No. 4. Variation of the more common extension edge box. Cover reversible for display purposes. Nos. 5, 6 and 7. Further variations of extension edge box, having double step edges, heavy double frame construction and fabric lined and hand embellished. No. 6 becomes a sturdy watch display fixture if cover is discarded

with the idea that the present and potential user of this finer type of package may possibly be impressed with the many possibilities there are for him to improve and perfect the packaging of his product. It is not exaggeration to state that the set-up box lends itself to more interesting variations in construction and styling than any other type. Of course, set-up boxes are constructed of many materials other than the most commonly used



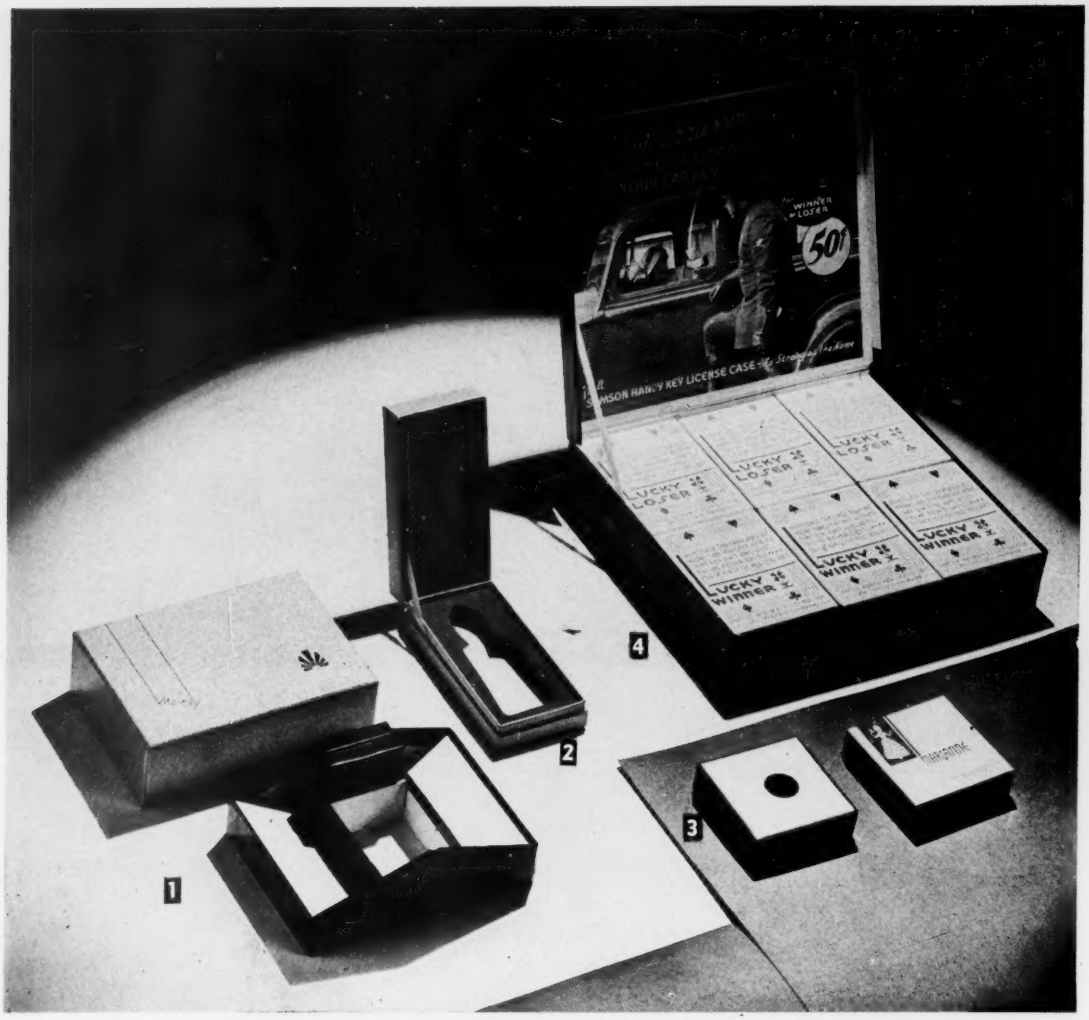
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FORT ORANGE PAPER COMPANY

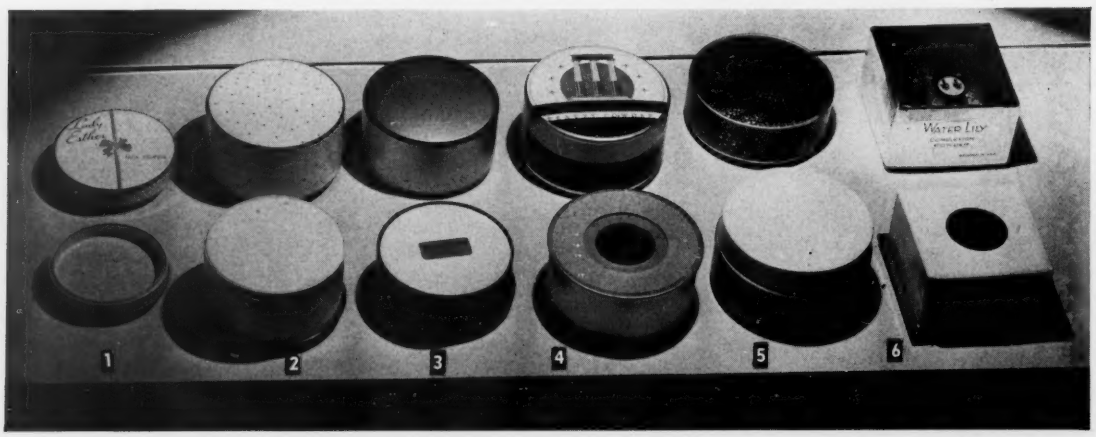
CASTLETON ON HUDSON, N. Y.

Manufacturers of Paperboard, Folding Paper Cartons
and Display Containers

New York City Boston



A few of the many possibilities for fitting and partitioning set-up boxes to accommodate various products. No. 1, with shaped base, reversible in the cover for display. No. 2. Shoulder style box with a platform punched to the shape of bottle it will hold. No. 3. Telescope style face powder box with drum container fitted with transparent window. No. 4. Shut-over three-sided hinged cover display box with nest of small telescope boxes



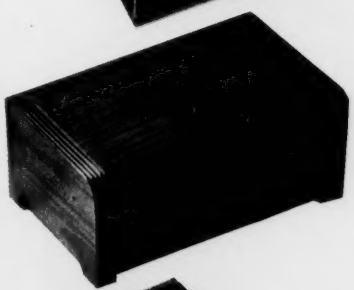
Types of powder boxes. No. 1. Round type commonly used in ten-cent store outlets. No. 2. Round telescope; projecting edge base, flush edge cover, all paper powder drum. No. 3. Round telescope, projecting edge base, crimped edge cover, paper powder drum with transparent cellulose window. No. 4. Round type, drum made on base with plug filler bottom. No. 5. Round shouldered with crimped edge on both base and cover. Drum forms collar of box. No. 6. Square, with loose wrapped top label and plug filler

When you consider how expensive a PILLIOD Wooden Cabinet LOOKS....



You'll be surprised to find how LITTLE IT COSTS!







Pilliod Cabinets look like the proverbial "million dollars"... to consumers and dealers alike. After all, there is no reason why they shouldn't convey an air of supreme quality... for they are the *ne plus ultra* of fine cabinet work, applied to boxes.

But, surprisingly, they cost much less than you would suspect. Not as little as run-of-the-mill paper boxes, of course, but far less than you would expect to pay.

How do we do it? Well, a trip through the Pilliod plant would be a revelation to you... we're the Fords of the wooden cabinet industry.

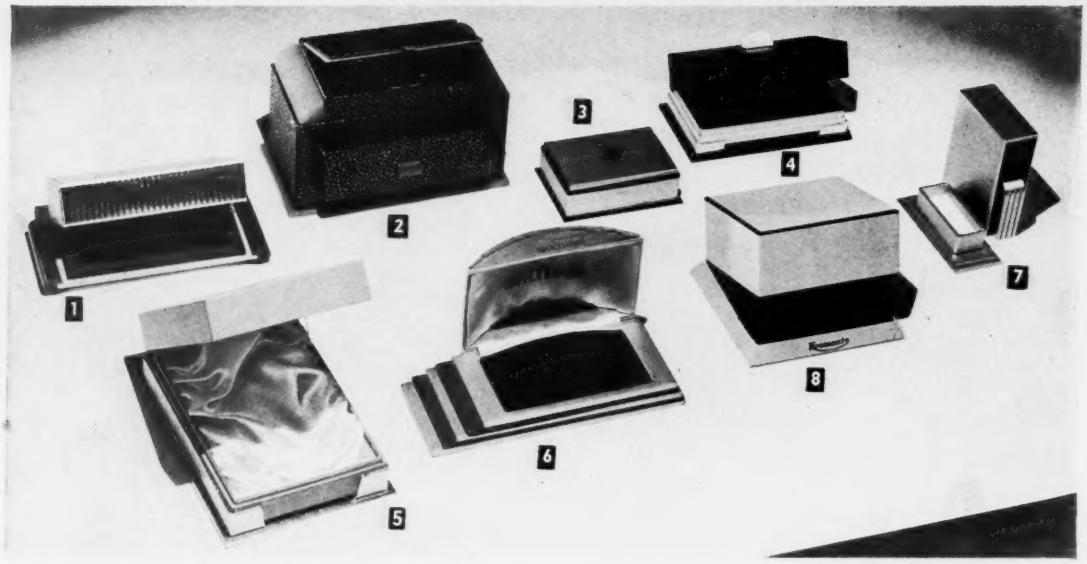
And so, on the one hand we offer a type of product that has proved its ability to create sales, win display space and earn profits and... on the other hand... we assure you that it costs less than you'd think to give your product the advantages of a Pilliod Cabinet.

Sounds like a good idea to write us for more information, doesn't it?

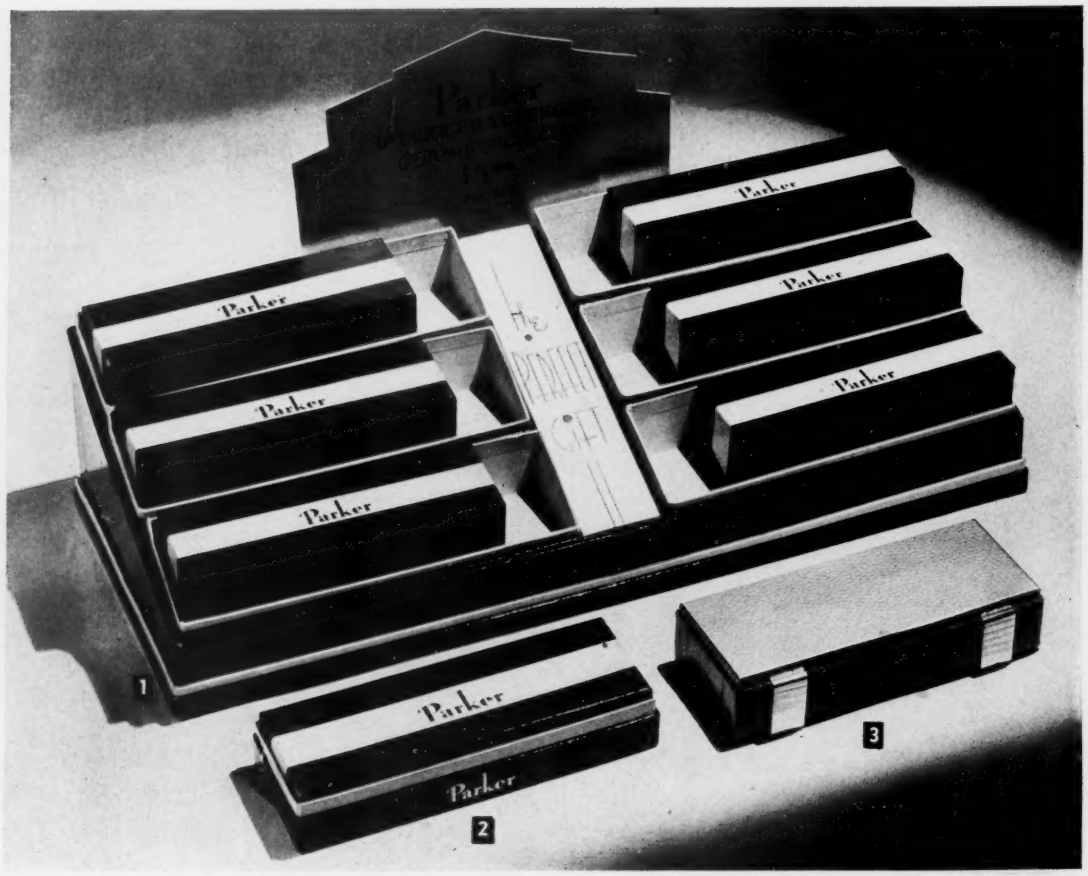
PILLIOD CABINET COMPANY

SWANTON • OHIO

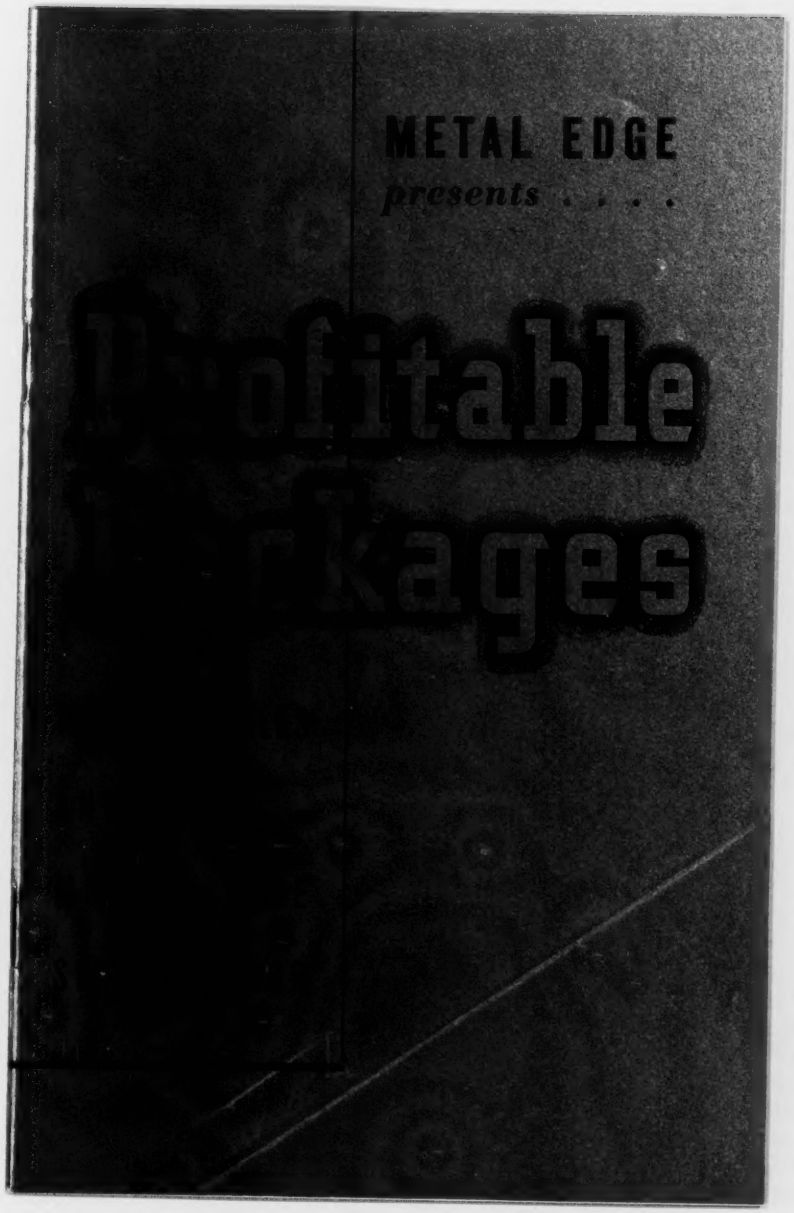
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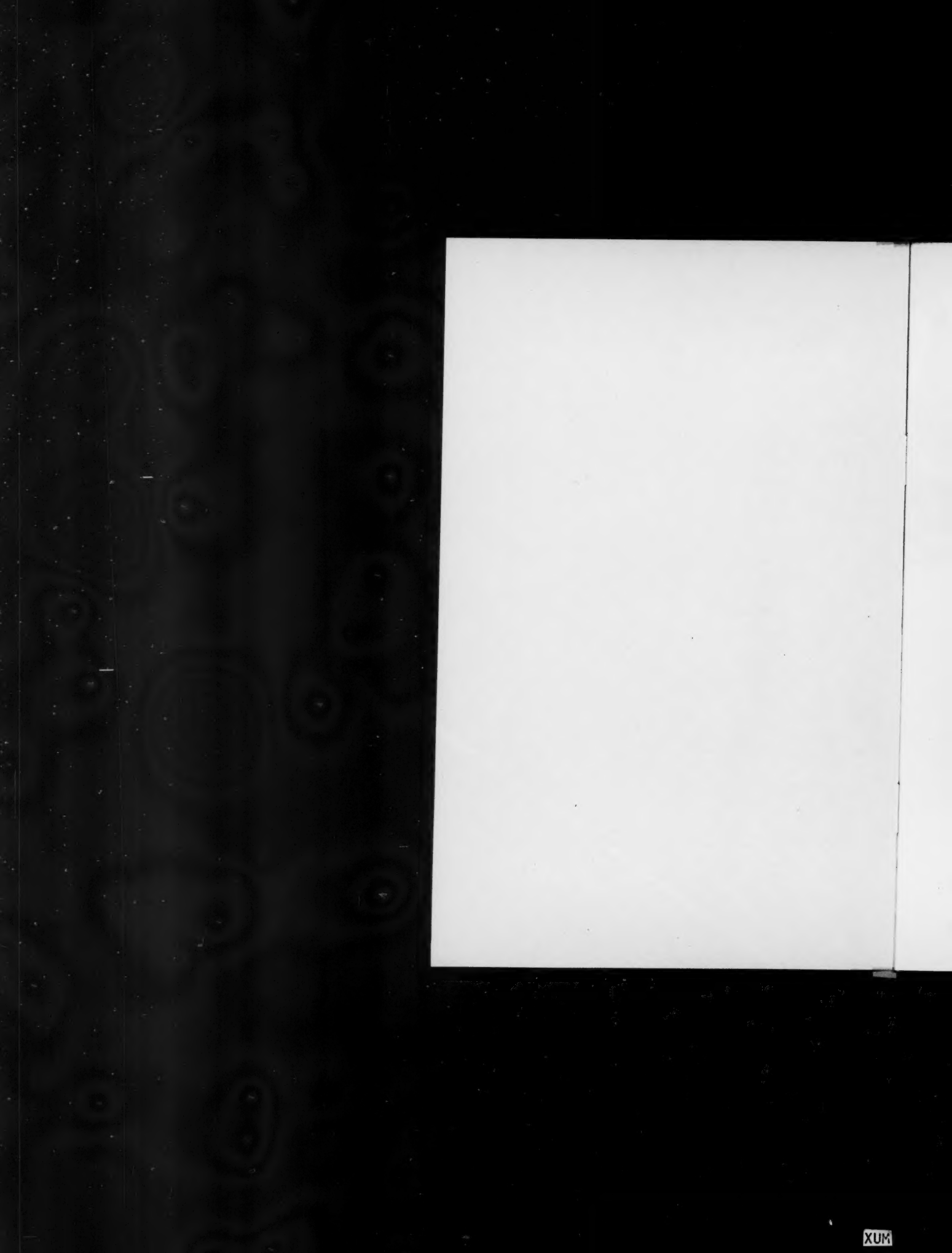


A collection of novelty boxes made by combining standard style set-up box parts in unusual ways. Nos. 1 to 4, inclusive, are trimmed with Catalin. Fine lacquer papers, foils, velveteens, rayon and satin used for covering and linings. No. 7 is trimmed with lacquered wood pieces that are glued to the sides of the cover. These may be regarded as examples of hand assembled, set-up paper boxes, in which the component parts, for the most part, are machine produced. As may be seen, the linings and interior finishings are such as to enhance appearance and provide for advantageous display of the contained merchandise

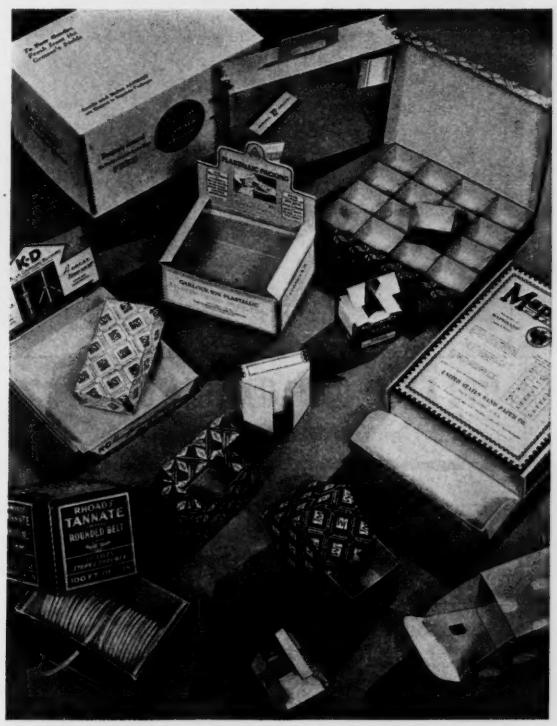


No. 1. Pen and pencil display boxes with large size display grouping six of one style to make complete unit. A sample bottle of ink in a carton sets in the base alongside the shortened cover. No. 2. Three-piece form in step back design base, inside reversible cover, fitted with display pad. No. 3. Simple type box with supports or legs at each end


METAL EDGE
presents . . . .



PROFITABLE PACKAGES



made the **METAL EDGE** way

NATIONAL METAL EDGE BOX COMPANY

330 NORTH TWELFTH STREET . . . PHILADELPHIA



"PLANNED PACKAGING PAYS"

says Mr. M. E. Method

With too many concerns, the line of packages has "just growed". As new boxes seemed to be needed they were added without much thought of those already in use—without an all-embracing plan for the company's packaging as a whole, observes Mr. M. E. Method. • Is **your** packaging hit-or-miss? Could you profitably reduce the number of sizes, shapes and types of your boxes? Would you gain (as so many manufacturers have) by reasonable standardization? • Metal Edge is a **packaging method** engineered to fit the particular business, whether large or small. As such it deserves your thoughtful consideration.

METAL EDGE

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• Poor Richard says:—
"They that won't be counselled, can't be helped."

• ARE YOU WILLING TO BE SHOWN?

Even if you are convinced that your present packaging is satisfactory, you owe it to yourself to see if there is something better. Investigation by many firms, large and small, has proven that the Metal Edge Method with its saving of time, space, labor and money has overcome constant leaks and losses. These firms are unanimous in their conviction that Metal Edge Packaging not only produces the **strongest paper boxes** but gives added sales and advertising values.



FREE TRIAL OFFER

See Page 19

STRONGEST PAPER BOX

● WHAT IS METAL EDGE?

Metal Edge is a more convenient, efficient and profitable packaging method. Since 1887, in all parts of the world and almost every line of manufacture, its practicability has been tested and its superiority proven.

This simple method, by which your paper boxes are assembled in your own plant just as you need them, from "flats" which are delivered to you already shaped and printed, produces packages of the highest quality at a reasonable cost. At the same time it offers you important advantages and savings in several directions.

So that you may examine a Metal Edge package and see for yourself the metal-stayed construction which makes the **strongest paper box**, we should like to send you samples in the sizes you use.

For this purpose we invite you to send us one of the boxes you are now using, a list of sizes of your present paper boxes and approximately what quantity of each size you use in a given period. Having this data we will be in a position to give you detailed information and the comparative cost of stronger, more satisfactory Metal Edge packaging.

Securing this information will place you under no



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obligation whatever. Facts may be disclosed which you will consider very much worth while.



● There's no "hit-or-miss" work in the Metal Edge package designing department. Here the artist is building a carton which will combine protection with maximum display value. A service offered to all paper box users.

● EFFICIENCY OF THE METAL EDGE METHOD

By assembling your boxes in your own plant, intermediate profits are eliminated and maximum value is assured.

Among other advantages inherent in the method and stressed most strongly by users are the following:

● You are made absolutely independent of outside sources of supply for finished boxes — thus avoiding many annoyances, difficulties and delays.

STRONGEST PAPER BOX

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● Eighty to ninety percent of the storage space usually required for an adequate supply of made-up boxes is saved.

● Box inventories are reduced. Box handling expense is saved; congestion in Receiving Department relieved.

● Stronger, more substantial boxes are obtained; your products are given maximum protection; purchasers' respect for your goods and your business methods is increased. Sales are promoted.

Despite their great strength, Metal Edge packages are lighter, size for size, than ordinary paper boxes and are suitable for even the most fragile articles.



● Lighter size for size, and yet stronger than other paper boxes, Metal Edge packages are highly favored for products requiring maximum protection in the mails, express shipments, etc. This is a group of "mailers" used in pharmaceutical detailing.

• METAL EDGE QUALITY

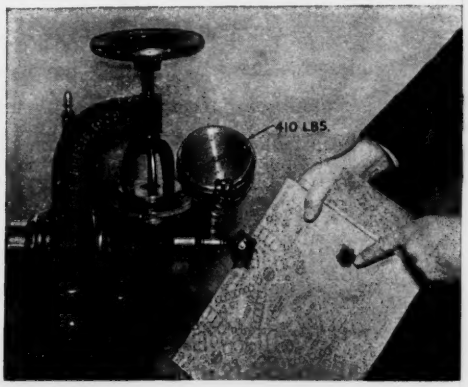
Have you lost trade where stronger boxes, of better quality, might have enabled you to hold it? Have you missed sales which might have been closed by a more substantial and attractive package—a package which reflected the superior quality of its contents? Have you found that packaging cost must be considered in relation to package effectiveness—that by "saving" a fraction of a cent per box you may lose thousands of dollars? If your answer is YES, then you will appreciate the merits of Metal Edge Packaging and the unvarying excellence of Metal Edge boxes.

Many paper boxes prove unsatisfactory because inferior, cheap boards are used, made from waste paper ground and reground until the original fibre is pulverized. Metal Edge box "flats" are manufactured from tough high-test board made of long-fibre pulp to our own rigid specifications. They assure utmost box strength and provide maximum protection for the merchandise.

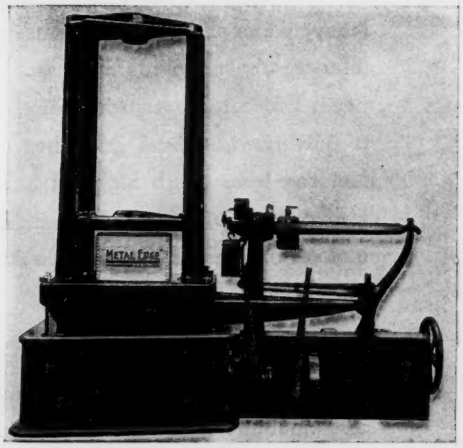
To the board used in combination with the metal-stayed construction, must be credited the greater dependability of Metal Edge boxes.

METAL EDGE • STRONGEST PAPER BOX

• PROVING STRENGTH OF METAL EDGE . . .



• 410lbs. needed to burst Metal Edge Super-Fibre Box board.



• Metal Edge box remained intact under compression load of 1515 lbs.

METAL EDGE

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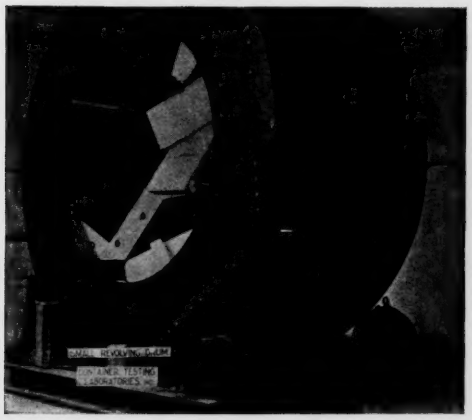






● Four strong men with roofers' tongs could not pull the Metal Edge box apart.

● Metal Edge boxes kept bottled liquid contents unharmed after 470 "drops" in testing drum . . . These and other actual tests prove that Metal Edge boxes made of Super-Fibre board are the strongest paper boxes known to modern business.



STRONGEST PAPER BOX

• ASSEMBLING BOXES AS NEEDED . . . FROM FLATS

Metal Edge box flats can be stored on shelves and will occupy not more than one-twentieth of the space required for an equal quantity of made-up boxes. You withdraw from this convenient stock only as many flats as you require for the boxes you plan to use immediately. And the flats can be shaped up or assembled into complete boxes, with metal reinforced edges, very rapidly and right in the department where they are used . . . no skilled labor is required, waste because of damaged boxes is eliminated . . . The flats, usually consisting of two pieces (one used to form the box and the other the lid) are delivered to you ready cut to size, cornered and scored, and if desired, printed in one or more colors . . . Making the flats into boxes is a simple process requiring only bending along the scored lines, bringing the corners together, placing on the anvil of the Metal Edge stayer and pressing the treadle.

METAL EDGE

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● METAL EDGE . . . STAYER OPERATION

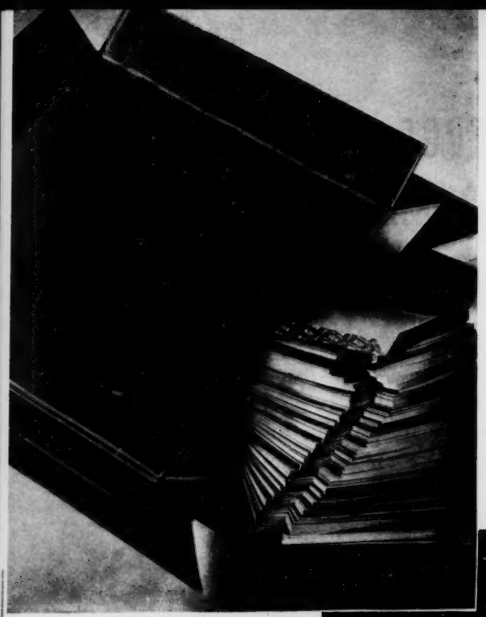
Operation of the Metal Edge Staying Machine is entirely automatic. It is guaranteed without qualification against defects in workmanship and material. The routine attention which you would give to any good equipment is all that is required. Scores of users have operated Stayers over periods of years without interruption of their packaging activities.

The procedure is simple. A coil of about 300 feet of metal stay is placed in the holder. Pressing the treadle feeds the stay automatically in lengths required for different depth boxes, cuts it off, applies it and clinches it on the corner of the box . . . To set stayer for a different size box, only loosen a bolt, shift a die, and tighten the bolt again (about 30 seconds) . . . Any person can operate the stayer; skilled labor is unnecessary. Average output is from 4,000 to 5,000 pieces (2,000 to 2,500 complete boxes and lids) in eight hours. Experienced operators far exceed these figures.

● Placing the coil of metal stay in the coil holder in the back of the stayer. Note packing case containing coils of stay.



STRONGEST PAPER BOX



METAL EDGE M
IS SIMPLICITY

these three pict
tell the whole

. . . your stayer does it

. . . your flats are ready

METAL EDGE



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EDGE METHOD
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three pictures
he whole story

ur stayer does its bit

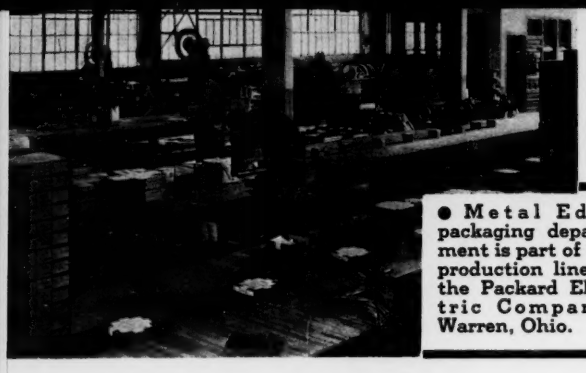




. . . and your boxes are done

STRONGEST PAPER BOX

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● Metal Edge packaging department is part of the production line at the Packard Electric Company, Warren, Ohio.

● THE TYPICAL METAL EDGE DEPARTMENT

Whether your daily requirements for paper boxes are small or large, whether you need only one Metal Edge Stayer or several, the space required for storage of flats and assembling of Metal Edge boxes is only a fractional part of the floor area needed to store and handle the same quantity of made-up boxes. In a space measuring 6 feet x 4 feet you can store enough flats for 18,000 boxes . . . The photographs above and on page 17 represent only very few of the many widely diversified types of business which are producing **profitable packages** by the Metal Edge Method.

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• METAL EDGE PACKAGING
USED WITH PROFIT IN ALMOST EVERY INDUSTRY

Abrasives
Asbestos Goods
Advertising Novelties
Agricultural Machinery Parts
Automobile Accessories
Automobile Parts
Ball and Roller Bearings
Belting
Biscuits and Crackers
Blank Books, Books
Boots and Shoes
Braids and Cords
Brake Linings
Brass Goods
Brushes
Chemicals and Drugs
China
Cigars
Clothing
Combs
Collapsible Tubes
Confectionery and Chewing Gum
Copper Tubing
Curtains
Cutlery
Dental Supplies
Dresses
Electrical Appliances and Parts
Elevator Parts
Envelopes
Explosives
Fire Arms
Fishing Tackle
Flags
Fruits and Food
Gaskets
Glassware
Hardware of all Kinds
Hats
Hosiery
Jewelry
Knitting Needles
Leather Goods
Machinery Parts
Metal Polish
Medical and Surgical Goods
Mechanical Packings
Mechanical Parts
Millinery
Motor and Airplane Parts
Office Supplies
Pens and Pencils
Pharmaceuticals
Phonograph Records
Photographic Films
Pin Tickets and Shipping Tags
Plastics
Plumbing Supplies
Rubber Goods
Radio Parts and Tubes
Sand Paper
Seeds and Bulbs
Silverware
Soap
Shirts
Sporting Goods
Steel Balls
Textiles
Tools of all Kinds
Toys
Umbrellas and Canes
Watch Cases
Wire Goods
Writing Ink

STRONGEST PAPER BOX

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METAL EDGE USERS WRITE

"We are keen believers in the theory that an attractive package materially helps the sale of a product . . . In selecting Metal Edge boxes we feel that we have secured the best package on the market."

The Allpax Company, Inc., Mamaroneck, N. Y.

"From the standpoint of cost, we have found that the Metal Edge system usually saves us at least 33⅓% to 50% in packaging cost."

Hoffman-LaRoche, Inc., Nutley, N. J.

"We recommend the Metal Edge boxes to anyone as a box that is very strong and makes a pleasing appearance on the shelves of distributors."

The General Fireproofing Co., Youngstown, Ohio

"Our Company has been using the Metal Edge boxes for a period of eight years, with very gratifying and satisfactory results."

Aluminum Industries, Inc., Cincinnati, Ohio

"For more than two years we have employed your Metal Edge container and it has proved so satisfactory we would not think of returning to any other style."

Schering Corporation, New York City

"We estimate that it saved enough to pay for itself during the first six months of its operation."

L. G. Balfour Company, Attleboro, Mass.

"We have found the entire Metal Edge organization very cooperative and most helpful concerning our packaging problems."

Reed and Carnick, Jersey City, N. J.

"The following factors were primarily responsible for our decision to use National Metal Edge packaging method. (1) Control of stock, (2) Minimum storage, (3) Strength, rigidity and appearance of package."

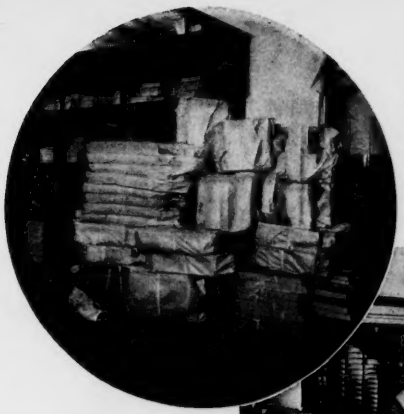
National Casket Company, Inc., Pittsburgh, Pa.

"When we adopted Metal Edge boxes, we were looking for strength and economy. We found both."

Hindley Manufacturing Co., Valley Falls, R. I.

METAL EDGE • STRONGEST PAPER BOX

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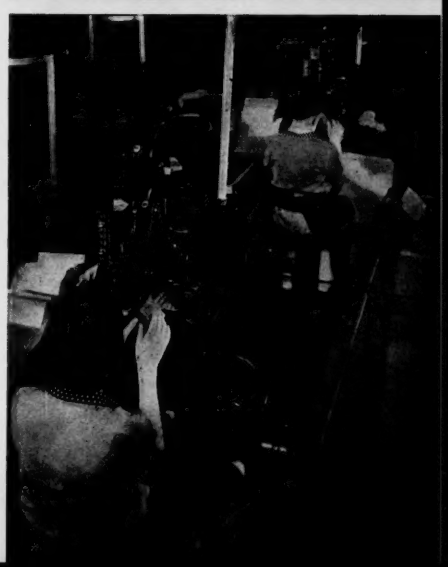


METAL EDGERS

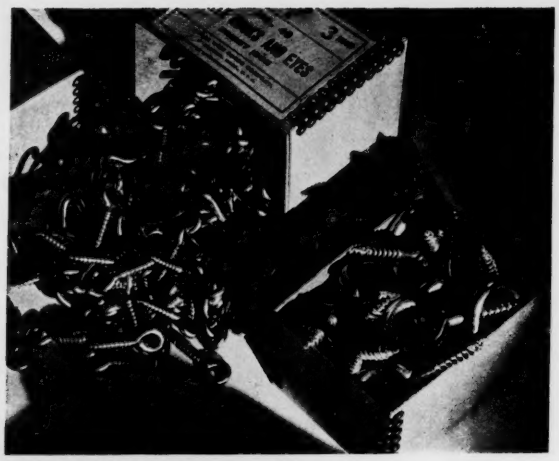
retain complete control of their packaging from beginning to end



● (Above) Flats of various sizes on hand-truck. Assembling Metal Edge grease-proof boxes at The GarlockPacking Co., Palmyra, N. Y.



● (At right) Assembling 5200 Metal Edge boxes per day (on one stayer) at Smith Kline & French Laboratories, Philadelphia.





● (Above)—Loose, heavy, sharp... gate hooks and eyes packed by Parker Wire Goods Co. demonstrate Metal Edge boxes "can take it."

● (Left)—Attention-compelling counter display is this attractive Metal Edge box used by United States Rubber Co.

METAL EDGE

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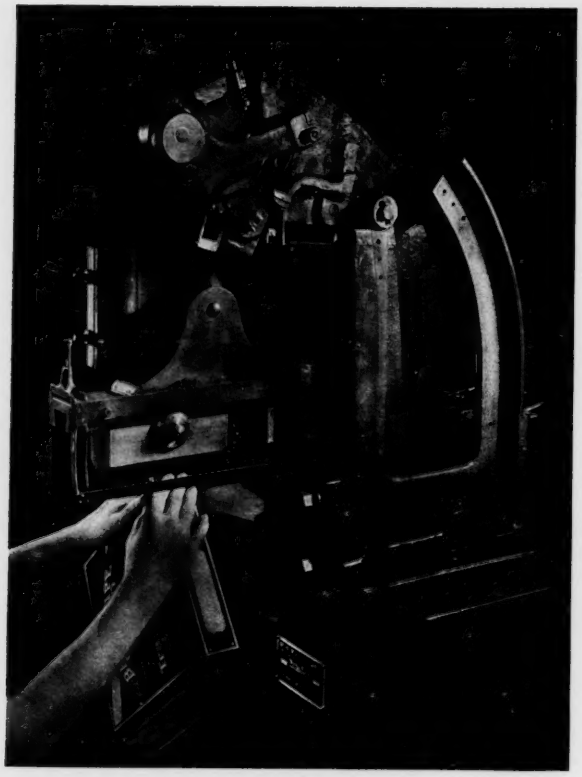
• METAL EDGE TRIAL OFFER

To any substantial manufacturer desiring to test Metal Edge packaging in his own plant and learn from actual practice to what extent this method will profit him . . . we shall be glad to ship a Metal Edge Stayer for ninety days trial.

If you find the method works out as advantageously for you as it has for others, you will of course wish to retain it. However, if for any reason you are not fully satisfied that Metal Edge packaging is the system for you, the Stayer may be returned within ninety days for full credit.

This trial offer is extended only to those who, in our judgment, can use the method profitably—and only when the Stayer is to be used in the United States.

Under this plan we assume all the risk and you have an opportunity for a conclusive trial of a method which may pay you handsome dividends for years to come. The experiment costs you nothing because you pay only for the material you use. Let us send you a Stayer on trial.

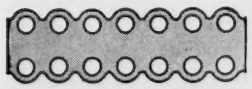


● AUTOMATIC SAFETY DEVICE

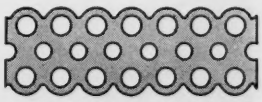
To insure the operator protection against careless handling, each Metal Edge Stayer is equipped with an Automatic Safety Device. Note in the illustration above that no injury can result to the operator's fingers even though they are directly under the descending cross-head. The guard bars automatically "trip" the safety device and prevent the further descent of the cross-head.

• METAL EDGE STAY

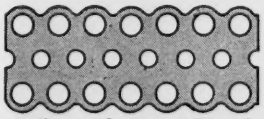
Metal Edge stay is a flat, thin strip of special metal (exceptionally light in weight but strong and substantial) with eyelets on each edge. The eyelets have prongs that enter and clinch in the board, making strong, smooth corners. Metal Edge stay is supplied in many colors. It is numbered according to width—all widths being the same quality. The illustrations are actual size.



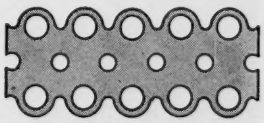
• No. 1 7/16 inch wide. About 12,000 feet to a case.



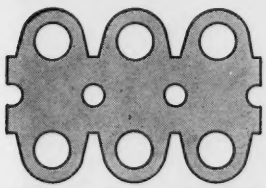
• No. 2 *Improved ½ inch wide. About 10,000 feet to a case.



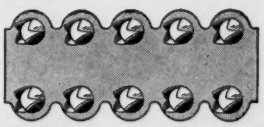
• No. 4 *Improved 5/8 inch wide. About 7,000 feet to a case.



• No. 4X *Improved 5/8 inch wide. About 7,000 feet to a case.

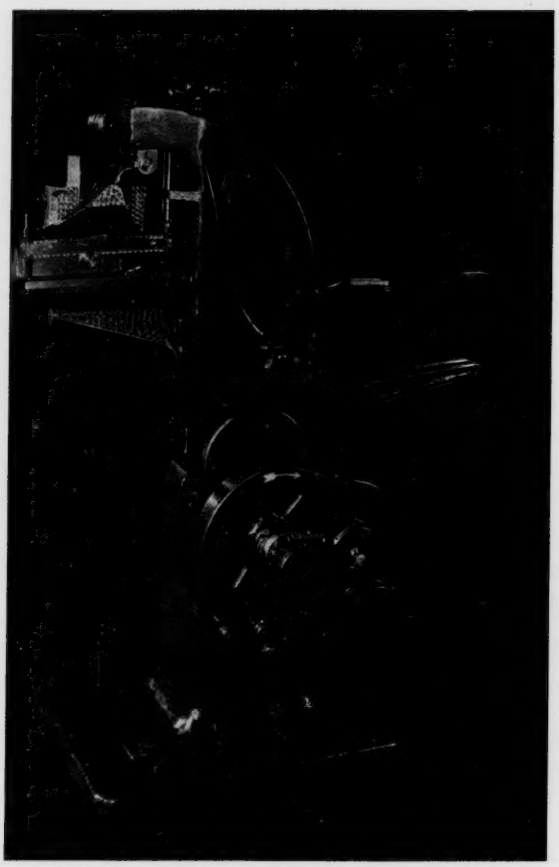


• No. 5 *Improved 1 inch wide. About 3,000 feet to a case.



• Reverse side of a piece of stay showing pronged eyelets. Also showing old style metal without perforations down the center.

* "Improved" indicates metal stay made (as illustrated) with perforations in center. "Old Style" Stay can be furnished without center perforations as shown in No. 1 above.



● There are two standard sizes of stayers, each fully described on the next page. . . Every stayer is equipped with automatic safety devices built into the head.

METAL EDGE

• METAL EDGE STAYING MACHINE DATA

The Stayers are built in two sizes: Model "A" twelve inch and Model "E" six inch.

The Model "A" will form any box from one-half to twelve inches deep; the Model "E" any box from one-half to six inches deep. The depth of your deepest box corner governs size of Stayer needed. Each Stayer has an Automatic Safety Device built into the head.

The Stayers are equipped to handle one width of Stay. If wanted, parts can be supplied with Stayers to handle two widths of Stay or all four if desired.

SPECIFICATIONS	MODEL A		MODEL E	
	Equipped for		Equipped for	
	Metal Stay No. 1, 2, 4 or 4X	Metal Stay No. 5	Metal Stay No. 1, 2, 4 or 4X	Metal Stay No. 5
Height	5′ 8″	5′ 8″	5′ 6″	5′ 6″
Floor Space (at base)	33″ x 26″	33″ x 26″	24″ x 23″	24″ x 23″
Space over all including Overhanging Parts	69″ x 33″	69″ x 33″	56″ x 31″	56″ x 31″
Net Weight	1420 lbs.	1455 lbs.	915 lbs.	940 lbs.
Shipping Weight	1790 lbs.	1825 lbs.	1235 lbs.	1265 lbs.

Stayers are equipped with ¾ H. P. Motor, but can be supplied for belt drive. With order give power data, viz.: D. C. Voltage; or A. C. Voltage, Phase and Cycle.

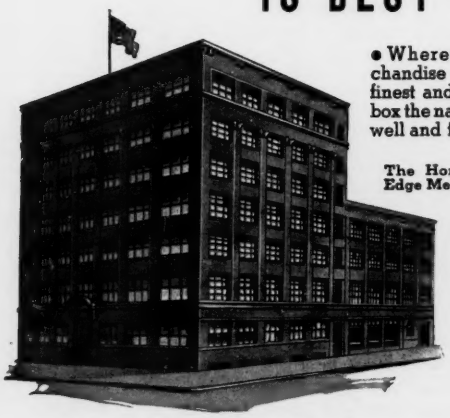
XUM



• GOOD IN 1887...

when the plant looked like this and the stayer operated by foot-power

METAL EDGE PACKAGING IS BEST TODAY



• Wherever quality merchandise is packed in the finest and strongest paper box the name Metal Edge is well and favorably known.

The Home of the Metal Edge Method of Packaging

FREE TRIAL OFFER

See page 19

NATIONAL METAL EDGE BOX CO.

330 NORTH TWELFTH STREET • PHILADELPHIA

NATIONAL METAL EDGE BOX CO.

GENTLEMEN:

Of course we are interested in Profitable Packages!

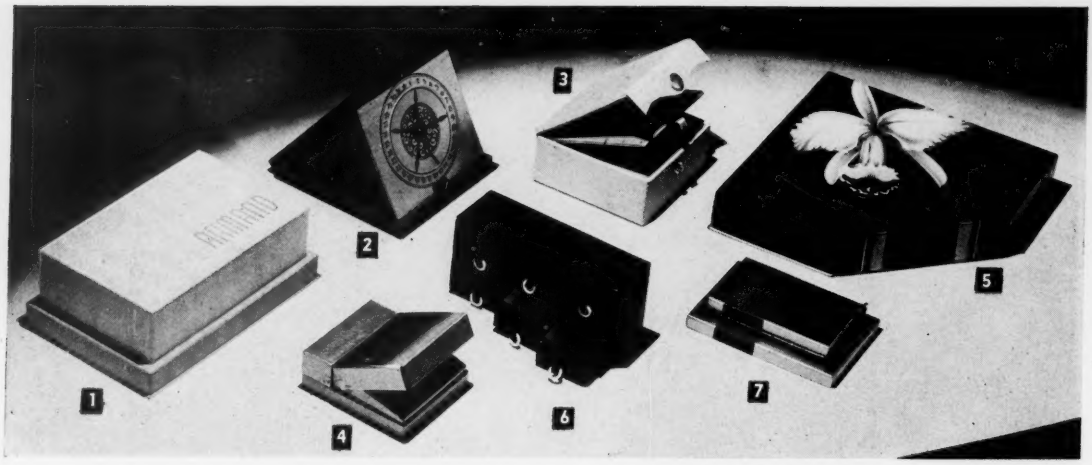
☐ We will be glad to take advantage of your free offer (as noted on page 19).

☐ Please have a Metal Edge representative call, without obligation, and see

MR. .....

FIRM .....

CITY .....



This group illustrates further variety of styles and designs possible in set-up boxes. No. 1. Massive design with platform and heavy pedestal base for packaging and displaying a combination face powder and perfume set. No. 2. Novelty piece for advertisers which takes the form of a perpetual calendar for the executive's desk. No. 3. Cabinet type, heavy construction face powder container with secondary use for a trinket or jewel cabinet. No. 4. Split cover case for display of rosaries or lavallieres. No. 5. Another type of odd shape, with fine rayon lining to hold box of face powder and bottle of perfume. No. 7. Another case with massive base, reversible sloped cover for display. No. 6. Cabinet type package with series of drawers to store repair parts of watches and jewelry, to be used permanently on the jeweler's repair bench

news and chipboard with or without paper coverings. For very high grade packaging, wood, plastic materials, metal, etc., are used and fabrics such as silk, rayon, velvet, leather and so on also serve as wrappings or coverings, and linings. Set-up boxes have a wide range of uses, from the strictly utilitarian box that protects its contents in shipping and storing and is discarded as soon as it reaches the consumer, up to the fine package that acts as a display and silent salesman, and such types as serve as ornamental containers over a lengthy period while the contents are being used. Many of these finer sorts of set-up boxes are retained in use long after the contents have been exhausted, and thereby keep the name of the manufacturer before the user.

MAILING CONTAINERS

THE UNITED STATES MAIL will carry most shipments within limit of weight and size, provided they are properly packed and prepared in accordance with Postal Rules and Regulations. Because of the varied products shipped and the rules which the Post Office Department has promulgated to protect them in handling, mailing containers come in many varied forms and types—a specialized branch of the container industry.

Parcel Post box: This box is used for all unsealed mail and because of the metal fasteners that securely close the box, requires neither wrapping nor tying, the most widely used type of mailing container because of its simplicity, lightness and great strength.

Fourth Class box: This box is made to meet the demands of shippers using sealed Third and Fourth Class mail. An exceptionally strong box which, in addition to the metal fasteners on the sides, has gummed flaps at each end which allow it to be sealed. The gummed flaps are an integral part of the box itself and are usually imprinted with a safety tint which prevents tampering without detection.

Registered Mail box: This box is made in a style and weight to meet the exacting demands of the Post Office Department for registered mail and requires no wrapping or tying. Usually made from extra heavy stock to give added protection; it is sealed by means of gummed flaps on the sides and ends. These flaps are printed with a safety tint which prevents tampering.

No-Break box: This box is usually made in two styles: one with metal fasteners for unsealed mail and one with the sealing flaps for sealed mail; the basic construction, however, being the same. To the regular mailing box is added an inner lining of double-faced corrugated board making absolutely the strongest mailing box obtainable. This type of box is extensively used for fragile goods, diamonds and jewelry, glassware, electrotypes and all products that need maximum protection during shipment.

Metal Edge box: A two-piece set-up box, reinforced at the corners with metal straps. Exceptionally rigid and adaptable to the shipment of many products.

Letter box: This is a two-compartment container



SET-UP BOXES

FOLDING BOXES

DESIGNING SERVICE

WARNERCRAFT

THE FINEST WORD IN PACKAGING

•

Practical designing combined with precise and careful workmanship, made possible by modern equipment and skilled employees, have enabled Warnercraft Packaging to contribute its share in the successful merchandising of many a high grade product, at the same time reducing waste and spoilage in the shipping room to the minimum. Quotations gladly given for short or long runs, folding or set-up boxes.

THE WARNER BROTHERS COMPANY

BRIDGEPORT • CONNECTICUT

200 MADISON AVENUE, NEW YORK AShland 4-1195

which allows the first class letter or bill to be mailed together with second, third or fourth class matter and reach the addressee at the same time. The envelope compartment on the top of the box is an integral part of the box wrap. The window in the envelope compartment allows the address of the letter to serve also as the address on the envelope and box. The box is closed by means of metal fasteners.

Returnable box: This box is made in two styles, both having the same general purpose of allowing the recipient to make convenient return to the sender. There is a cut-out in the cover through which a reversible address card shows. For memorandum or returnable shipments, it is only necessary to reverse the printed address card and the box is ready for return trip. Addressing and stamping for both forwarding and return can be done before the box is shipped.

Screw Cap containers: For shipments of liquids over four ounces, the Post Office Department requires that they be mailed in a water-tight tube closed by means of a screw-top cover with sufficient screw-threads to require at least one and one-half complete turns before it will come off. Bottles must be surrounded with bran, wadding or other absorbent material in sufficient quantity to absorb all the liquid in case of breakage.

Rigid mailer: For photographs, sketches, proofs or any matter that must be shipped flat, this type of mailer should be used. A single piece of double-faced corrugated board incorporated with a wrap of heavy kraft paper allowing shipment either sealed or unsealed.

Corrugated boxes: For products of large size or heavy weight, containers completely made from corrugated board are used. These are made in one, two or three pieces and are, usually, sealed with tape.

Generally speaking, all mailing containers fall into the above classes. Unusual products sometimes call for special treatment but their design incorporates one or more features of the above styles.

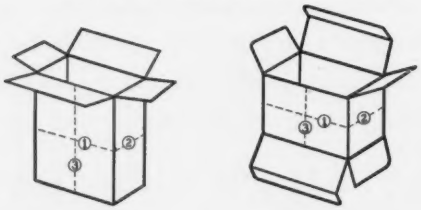
SPECIFICATIONS— FOLDING CARTONS AND DISPLAY CONTAINERS

Specifying Dimensions: Due to the lack of uniformity or standard method of specifying the dimensions of a folding carton, causing frequent misunderstandings and errors in the industry, the Paperboard Industries Association adopted at a meeting, held on May 21, 1930, a simplified standard for stating the three dimensions of a folding carton. Adherence to this simple method will greatly facilitate understanding, avoid errors and make a uniform system.

Shown below are diagrams indicating, by number, the sequence in which specifications are to be presented. Thus, in the case of either carton or counter display container, the following will apply:

1. The larger dimension at the opening.
2. The smaller dimension at the opening.
3. The third remaining dimension.

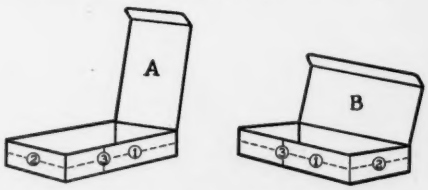
LEFT: SEAL (GLUED) END CARTON
RIGHT: REVERSE TUCK CARTON



All measurements are understood to be from center of crease to center of crease.

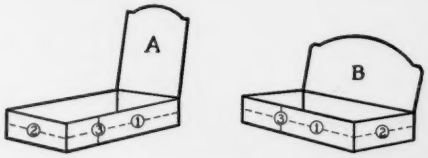
ONE-PIECE BOXES WITH COVERS

State whether or not cover extends from first or second dimension. (That is, whether like A or B.)



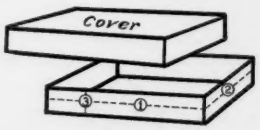
DISPLAY CONTAINERS

State whether or not display panel extends from first or second dimension. (That is, whether like A or B.)



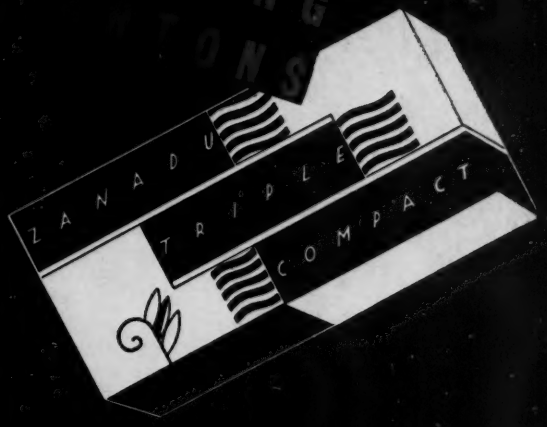
TWO-PIECE TELESCOPE BOX

In two-piece boxes dimensions of bottoms are given.



Adherence to this rule will greatly facilitate understanding and tend to make a uniform system.

DESIGNING AND MANUFACTURING







THIS PAGE IS
PRINTED ON Ridgelo CLAY COATED
FOLDING BOXBOARD



READY TO SERVE YOU . . . THE SKILL AND FACILITIES OF A WELL-BALANCED PACKAGING ORGANIZATION.

READY TO SERVE YOU . . . EFFICIENTLY, ECONOMICALLY IN EVERY PHASE OF THE PACKAGING AND MERCHANDISING FIELD. . . . TO HELP YOU INCREASE YOUR SALES. PHONE WALKER 5-9494 OR WRITE.

304 HUDSON STREET • NEW YORK

FOR ADDITIONAL PACKAGING INFORMATION, SEE OTHER SIDE

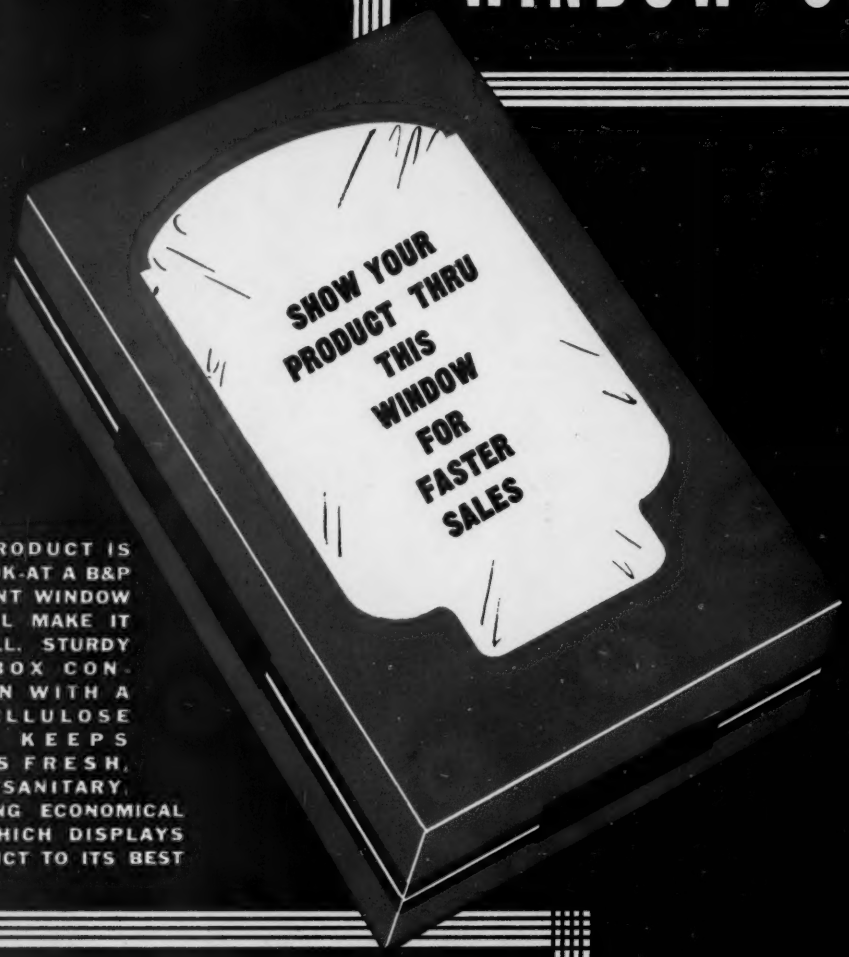
XUM

BROOKS & PORTER

Sell on Sight

WITH

WINDOW CARTONS



IF YOUR PRODUCT IS EASY-TO-LOOK-AT A B&P TRANSPARENT WINDOW CARTON WILL MAKE IT EASY-TO-SELL. STURDY FOLDING-BOX CONSTRUCTION WITH A CLEAR, CELLULOSE WINDOW KEEPS CONTENTS FRESH, CLEAN AND SANITARY. AN APPEALING ECONOMICAL PACKAGE WHICH DISPLAYS YOUR PRODUCT TO ITS BEST ADVANTAGE.



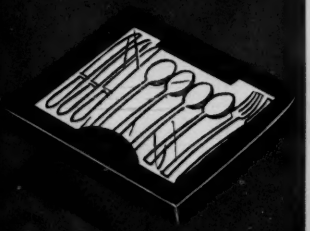
SHIRT CARTONS



SPONGE CARTONS



TOOTH BRUSH CARTONS



CUTLERY CONTAINERS

B & P SERVICE ENABLES YOU TO PLACE WITH ONE ORGANIZATION RESPONSIBILITY FOR EVERY DETAIL OF PACKAGE CREATION AND MANUFACTURE. . . FROM SKETCHED IDEA TO FINISHED CARTON.

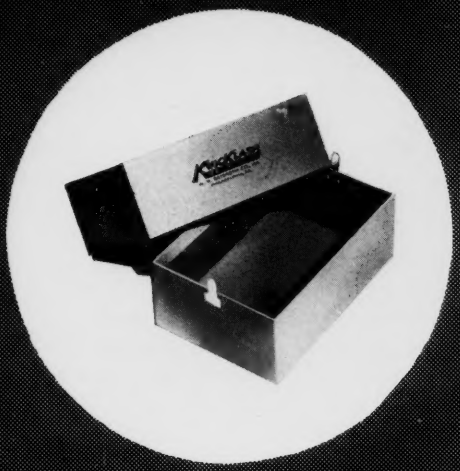
BROOKS & PORTER, INC.

304 HUDSON STREET • NEW YORK

FOR ADDITIONAL PACKAGING INFORMATION, SEE OTHER SIDE

THIS PAGE IS PRINTED ON CLAY COATED Ridgelo FOLDING BOXBOARD

XUM



SAFETY and ECONOMY ASSURED with KWICKLASP BY DEISROTH

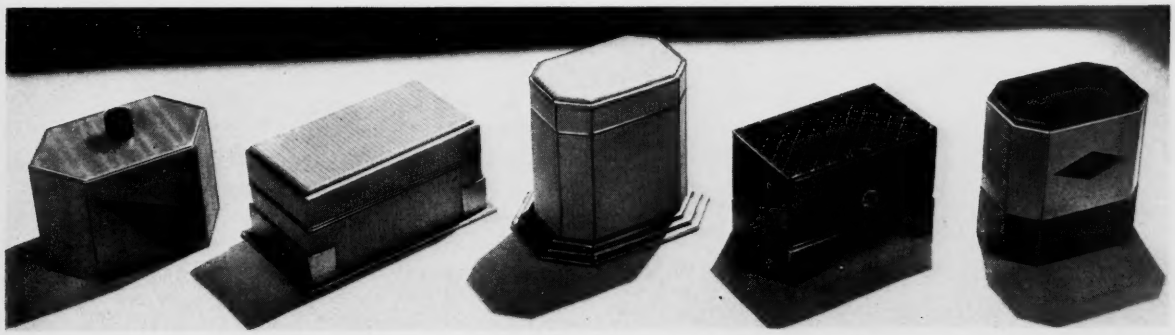
America's Finest Mailing Box

Hundreds of thousands of these boxes . . . in every shape and size . . . are used yearly . . . subjected to every laboratory and practical test. WE HAVE YET TO HEAR OF A *SINGLE* KWICKLASP BOX FAILING IN SERVICE!

This remarkable record is due to the great care exercised in the manufacture of these boxes and the extraordinary strength of the special board used in their construction.

Kwicklasp boxes save money for users. They eliminate paper and twine . . . and the labor involved in using these materials . . . they eliminate losses from damage . . . help you hold customers because of the good condition in which they deliver articles.

Tell us the kind of product you mail and its size and we will send you a sample box for testing purposes.



DEISROTH'S Set-Up Boxes—Quality Since 1875

Our designers know how to take your requirements and suggestions and convert them into practical, beautiful, inexpensive reality.

Deisroth engineers know how to maintain quality under your pressure for delivered boxes. And how to produce beauty at a price you can afford to pay.

May we show you what we have done for others . . . as an indication of what we can do for you. No obligation—

W. H. DEISROTH COMPANY, Inc.

ESTABLISHED 1875

S. E. Cor. Third & Cambria Sts. Philadelphia, Pa.

Specifying Stock: The universal method of specifying the weight of folding boxboards is on the point system, one point equalling one one-thousandth of an inch of thickness of the board. For example, the most widely used stock for small and medium sized cartons is sixteen thousandths of an inch in thickness, which is shown as .016. The range in folding boxboard weights is pretty definitely confined between .016 and .040 points, unless special requirements make it necessary to use a lighter or heavier board; which calls for a special mill run in every instance.

Specifying Style: As will be readily appreciated by simply looking through the following pages, folding cartons and display containers are made in an infinite variety of styles. Not every style is made by any one company, although none is such that it could not be, if it were not for patents that reserve their use to the patentees. Actually, all are comparatively simple in construction, requiring little in the way of complicated machinery to produce. Insofar as possible the cartons and displays thus protected are so stipulated in the descriptive information given. It is suggested that manufacturers who seek to have one particular style supplied them make sure that their carton maker determines whether or not patents exist on that style. This information is well known by carton manufacturers who make it their business to keep up with all improvements.

With the exception of the most universally used cartons and display containers, no standardization exists in the exact names for the different styles. Insofar as possible, in the following descriptions, the particular style given is that in most common usage, although variations will occur with various carton manufacturers, although the basis remains the same.

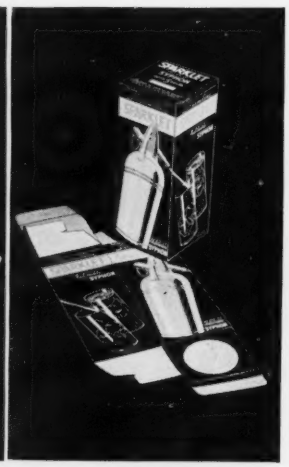
Order of Presentation: Both for the sake of clarity and ready reference, the various types have been classified under four major headings, all styles of each being segregated under that heading, as follows:

1. Folding cartons
2. Display containers
3. Dispensers (counter and wall)
4. Counter display cards

GROUP NUMBER ONE: FOLDING CARTONS



1



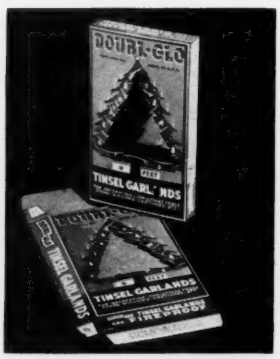
2

1. REVERSE TUCK CARTON. The most widely used of all carton styles for low-priced articles of all kinds. Easily set up by hand and adaptable to automatic packing. Convenient to open and close and exceedingly economical in manufacture because cartons interlock. This style not suited for heavy products, which must be held securely in the carton, and require some positive means of locking the end tucks, or for powdery products, such as flour, salt and sugar, which are likely to sift through, and thus require a seal-end carton. Ready accessibility and low cost make this style carton ideal for five and ten cent units of candy, such as cough drops, shaving creams and tooth pastes in tubes, and comparatively small bottles containing shoe polish, flavoring extracts, medicines, etc.

2. REVERSE TUCK CARTON WITH ARTHUR LOCKS. Side tucks, top and bottom, or just the bottom, lock to prevent heavy contents from breaking through. Used principally for packing jars and bottles containing toilet preparations, medicines and condiments, which must be held securely in the carton.

3. REVERSE TUCK CARTON WITH NOVELTY LOCKS. Small cuts or slits in the ends of the top and bottom tucks, which lock when the carton is closed, serve as an extra precautionary measure to hold heavy contents intact and carton securely closed. Can be included without added cost but does not offer complete security found in other types of locking devices.

3





Dennison Cracks those Packaging Problems!

There's a lot more to correct packaging than a beautiful design—as Dennison has proved again and again to the great satisfaction of its customers.

What kind of paper is required, to give best results? What inks? What adhesives? How can hand labor be reduced to a minimum? How should the final package be displayed for greatest sales?

These and countless other problems command the attention of a group of men at Dennison's who are *specialists*. Back of them are the resources of the most complete packaging research laboratory in America.

"These Wire Staples Must Not Rust!" When wire staples had to be protected against rusting, Dennison solved the problem by designing and producing an attractive, inexpensive box—then lining it with rustproof paper. —For Boston Wire Stitcher Company.

"These Silk Stockings Must Be Safely and Securely Labeled!" When silk hosiery had to be *securely* labeled with seals—*seals that could be quickly and completely removed without harm to the fabric*—Dennison solved the problem by developing an ingenious new kind of moistening device that effected an immediate saving of 15% to 20% in packaging costs. —For many different hosiery manufacturers.

"These Chisels Must Be Sold in Greater Quantities!" When the sale of chisels had to be speeded, Dennison solved the problem by devising a package for counter use that effectively displayed *six* chisels instead of *three*. —For Stanley Tool Company.

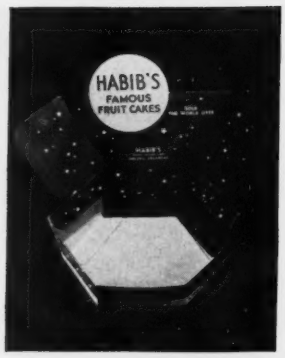
• • •

Dennison *designs* packages with artistic knowledge of color, display, selling appeal. Then it *produces* them with a sound expert technical knowledge of package making. Whether you are interested in boxes, labels, seals, tags, wrappings, envelopes—as single items or in a complete packaging program—it pays to *see Dennison first*. Dennison Mfg. Co., Framingham, Mass.

For Better Packaging SEE Dennison FIRST



4



5

4. REVERSE TUCK CARTON WITH GREENLEAF BOTTOM. Combines the ease of closing a regular tuck top with the safety of a securely locked bottom, to prevent possibility of heavy contents falling out of carton. Quickly closed by hand and adaptable to automatic machine closing. Use of the special lock-bottom adds slightly to carton cost but is needed for heavy products.

5. HEXAGONAL CARTON. An inexpensive novelty package offering excellent display for round products such as fruit cakes. Is not suited to high-speed, large production machine packaging, as closing the several tucks is a hand operation. While well suited for such products as fruit cakes, which depend upon counter display to sell readily, the irregular outer surfaces prevent conserving space, so this style should not be used for products customarily placed and displayed on retail store shelves.

6. HEXAGONAL CARTON, TUCK TOP AND LOCK BOTTOM. A patented carton that combines novelty with ease and speed of setting up. Quick-closing top requires only a single tuck or flap, while the Hibson lock bottom insures a permanent seal. Extensively used for packaging wines, liquors and other products in glass.

7. HEXAGONAL CARTON, TUCK TOP, QUICK SET-UP BOTTOM. This style provides the unique feature of a hexagonal platform, hinged at one side, which, when pushed down on top of the cardboard supports, makes a solid, substantial bottom. Top is closed with two tucks. An excellent Christmas or gift container for round tobacco cans, as well as cookies, candies and other products. Patented.

8. STRAIGHT TUCK CARTON, AIRPLANE STYLE. Has no advantage over reverse tuck carton but is required and extensively used with high speed automatic cartoning machines. Must be made with right and left glue seams to secure economy of interlocking for economical manufacturing. Serves as an effective and satisfactory low-price package for the same large variety of products using the regular reverse tuck carton. When used for products packaged in glass bottles it is advisable to equip bottom flaps with positive locking device to insure against the bottle falling out of carton bottom. Corrugated liner and package inserts sometimes used to hold product securely in carton, as is the case with the Vicks carton illustrated below.

6



7



8



What do we mean when we say. . . .

"IF IT'S A PAPER BOX... WE MAKE IT"





we mean just this . . . That we have made and are making for hundreds of manufacturers throughout the country, every type of paper box, carton, printed label and display.

We have available for prompt shipment standard styles and sizes of cosmetic boxes, drug boxes and mailers.

We can duplicate your present boxes . . . or develop new designs. Whether you want one box or a million, send us your inquiry for . . .

"IF IT'S A PAPER BOX... WE MAKE IT!"

MERLE SEARS
PAPER BOX COMPANY
Danville, Illinois

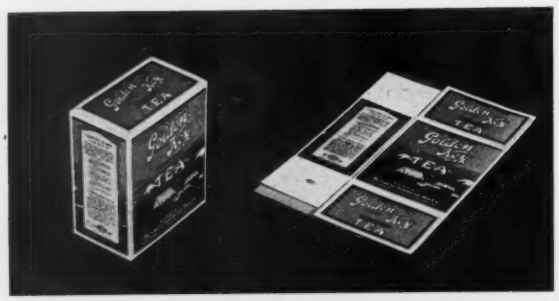
XUM



9



10



11



12

9. STRAIGHT TUCK CARTON, "2 in 1" STYLE. Patented carton made with an inside divider which when folded into position forms two separate compartments. Made in one piece delivered in conventional knocked-down form. An ideal carton for a combination sale, such as a shampoo and a hair tint, or a bottle, with medicine dropper or supplementary dispensing unit.

10. STRAIGHT TUCK CARTON, BROADSIDE-OPENER STYLE. An interesting development in a straight tuck carton which permits inexpensive, automatic filling through the ends of the carton which are later securely sealed. Carton is opened on the broad side, hence the name, Broadside-Opener.

11. SEAL END CARTON. The most popular style carton for packing flour, cereals, sugar, salt, teas, coffees, spices, soap powders and wide variety of products. Readily packed on high speed automatic machinery but difficult to seal by hand. Side flaps usually made to meet in center, to prevent sifting, or an inner liner bag is used to hold the product. See Number 18 for plain carton with overall wrap.

12. SEAL END CARTON WITH TUCK TOP. Has the advantage of a solidly sealed bottom and convenience of the easily opened and closed tuck top, for ready accessibility to contents. Best suited to automatic packing because of difficulty of sealing bottom by hand.

13. SEAL END HEXAGONAL CARTON. A patented carton for salt, sugar and powdered products. Six flaps, top and bottom, are sealed to prevent sifting. A small perforated section, in the shape of a triangle, in the top panel, forms a convenient pouring spout.

14. SEAL END CARTON WITH POURING SPOUT. An ordinary seal end carton with top flaps so fashioned that when torn on perforated lines a pouring spout is formed. This style pouring spout is patented.

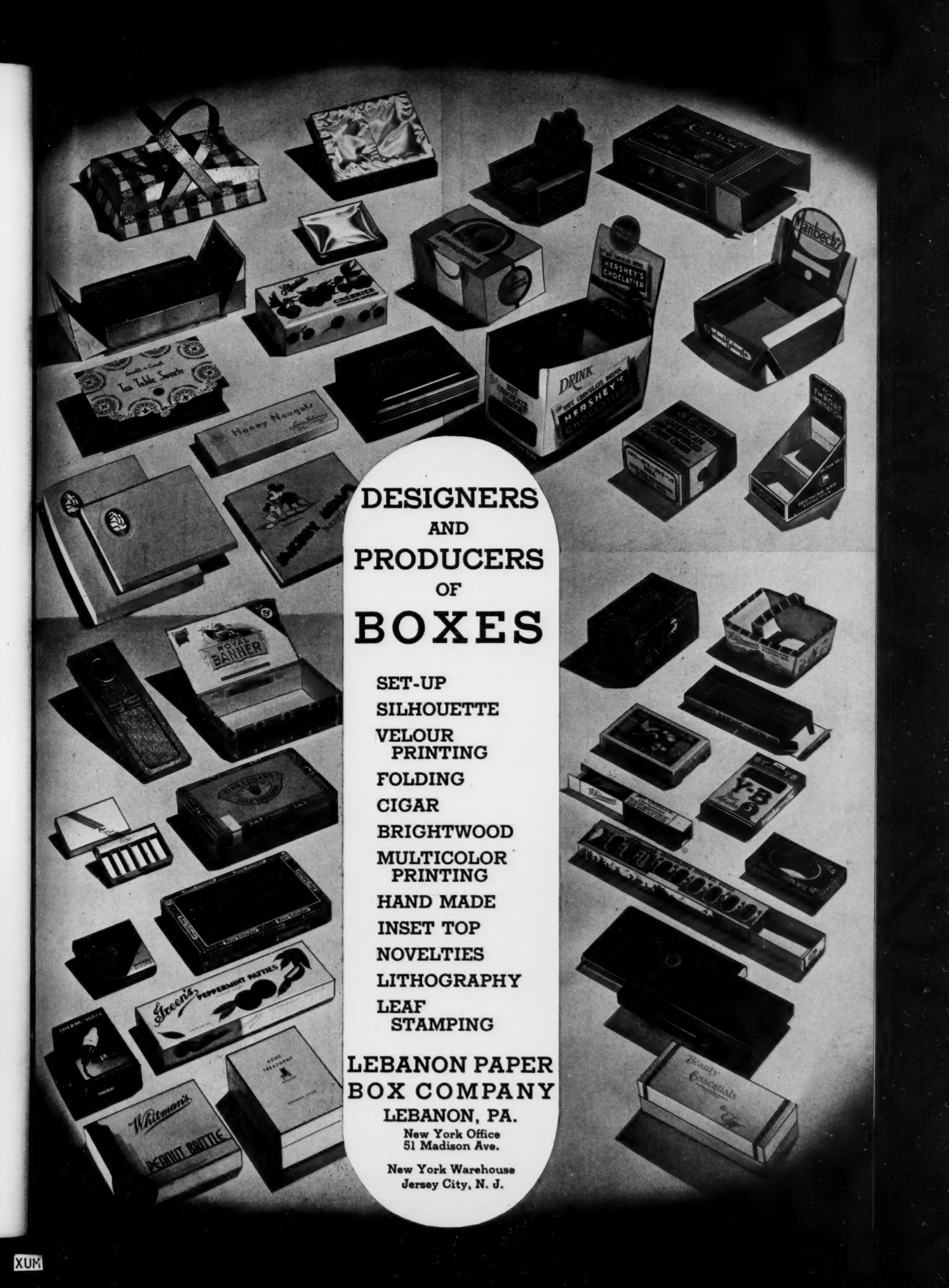
15. SEAL END CARTON WITH POURING SPOUT AND RECLOSING TOP. The upper flap is perforated as shown so that when the package is opened the strip can be inserted in the open edge of the carton, thus re-sealing it. Under flaps perforated to form convenient pouring lips. Patented.

13



14

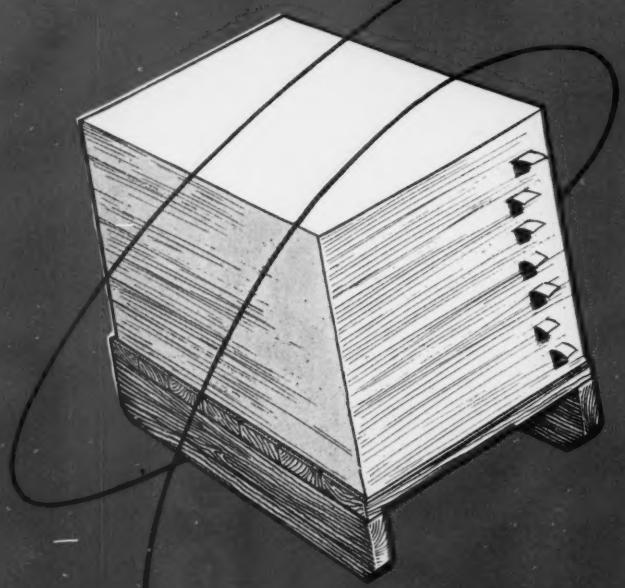



DESIGNERS
AND
PRODUCERS
OF
BOXES
SET-UP
SILHOUETTE
VELOUR PRINTING
FOLDING
CIGAR
BRIGHTWOOD
MULTICOLOR PRINTING
HAND MADE
INSET TOP
NOVELTIES
LITHOGRAPHY
LEAF STAMPING
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LEBANON, PA.
New York Office
51 Madison Ave.
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Jersey City, N. J.
Honey Nougats
ROYAL BANNER
Whitman's
PEANUT BRITTLE
Beauty Essentials

All tied up . . IN ONE CO

American Coating Mills offer a complete, up-to-the-minute service, geared to solve your board, packaging, display and sampling problems. Here in one organization is assembled a modern board mill, coating mill, carton plant, plus an excellent design and construction department capable of efficiently handling the most difficult problems.

There is much to be saved in having one organization responsible for all of your packaging, sampling, and display work. Read below and see how much American Coating Mills have to offer.



A.C.M CLAY COATED BOARD

A. C. M Clay Coated Folding Boxboard sets the standard for quality. This clay coated board in your carton affords greater shelf appeal. Its superior whiteness and smoother surface mean clean cut printing, its clay coating, preventing ink absorption, adds greater brilliance to color; its rigidity provides strength. Your touch as well as your eye will convince you of its finer quality.

Specify A. C. M Clay Coated for all carton requirements.

A.C.M *Counterfeit-proof* BOARD

After years of research and the expenditure of thousands of dollars A. C. M has developed a clay coated folding boxboard that *cannot be imitated.* But best of all, this imitation-proof carton board has all the qualities of A. C. M Clay Coated, as only A. C. M can make it. This board in your carton means counter-feit protection . . . plus "shelf appeal" . . . at little extra cost.

Briefly that's the story . . . you can get full details by writing or phoning for an A. C. M representative.

TO SOLVE YOUR BOARD, PACKAGING, DISPLAY AND SAMPLING PROBLEMS . . SEND FOR AN A. C. M REPRESENTATIVE

XUM

E COMPLETE SERVICE



A.C.M CARTONS

In the manufacture of cartons A. C. M offers complete service from start to finish. Working with the finest quality boxboa·d, experienced, competent printers carry out the ideas of a capable group of designers. The efforts of this combination result in a carton of greater eye and sales appeal.

Why not take advantage of this service and *Increase Sales!*



A.C.M *Display* CONTAINERS, ETC.

American Coating Mills also offers a complete service in the manufacture of display containers, etc. An excellent design and construction department is ready to devise new constructions and new methods of displaying your products. The use of A. C. M Clay Coated Board in these containers gives them the added eye appeal that makes for greater sales.

Let us show you how effectively your product can be displayed!

A.C.M MAILERS



A. C. M Bilt-In Mailers make your sampling easy. They get your sample message across. They're new, colorful, different, inviting and readable. The Bilt-In Mailer delivers your sample neatly and safely and as it unfolds it flashes your sample story in full view.

Write today for sample Bilt-In Mailers. Better still send us one of your sample mailings and we'll gladly make up a dummy for you.



A.C.M "JUMBOS"

Jumbo displays should play an important part in any merchandising and advertising campaign. Their large size sets them apart from hundreds of neighbors, and they receive the *preferred attention* necessary in doing a good selling job. And the unequalled brilliance, the ability to reproduce colors vividly, the sturdy wearing qualities of A. C. M Clay Coated Folding Boxboard make it ideal for use in the manufacture of Jumbo replicas of cartons and containers.

AMERICAN COATING MILLS, INC.

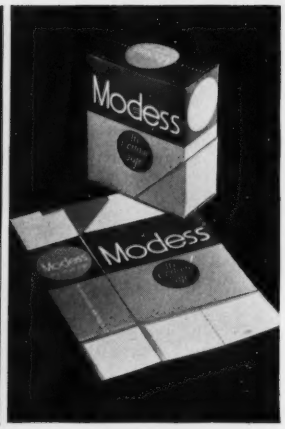
MAIN OFFICE • ELKHART, INDIANA

NEW YORK • 22 East 40th St. Wrigley Building, Chicago

XUM



15



16



17



18

19



16. SEAL END CARTON WITH RECLOSURE. A new type of patented reclosure applied to the side of an ordinary seal end carton. The reclosure is formed from a portion of the front and side panels. When perforations are properly broken the carton can be opened and closed at will, without marring the appearance of the package.

17. SEAL END CARTON WITH TRANSPARENT CELLULOSE WINDOW. Contents of this package fully protected from contamination yet are visible to consumer through transparent window.

18. SEAL END SHELL WITH TIGHT WRAP. Consists of a plain shell, often made of chip board, completely covered by a printed wrapper. Widely used for flours, cereals, salt, sugar and crackers. Requires automatic machine equipment. Double sealing prevents sifting, air deterioration and contamination from insects or dust. Newest development is to paraffin the printed side of wrap to give added protection to product. Wrap may be glued solidly to all six surfaces of the carton, or "spot glued" at certain points.

19. BOLT-END LOCK CARTON. A most economical carton requiring minimum stock. Ends fastened with gummed seals or encircling band making package tamper-proof. Widely used for packaging baseballs.

20. BEVERAGE BOTTLE-CARRIER CARTON. A sturdy container, designed to carry six beverage bottles, which makes a good display. Handles formed from top panels which make it convenient "carry home" package, thus promoting sale of six-bottle unit. Patented.

21. COLONIAL LOCK CARTON. A very economical style requiring no gluing. When set-up hooks and catches interlock on sides to hold it secure. Universally used by biscuit and cracker bakers either in form of printed cartons or enclosed in a sealed, printed wrapper.

20



21



XUM



Containers used for:

Fine Linens

Gift Assortment Food Products

Champagnes, Wines

Electric Heat Pads

Soaps

Bath Salts

Fruit Cakes

Razors and Razor Blades

Candy

Men's Dress Accessories

Cigarettes, Cigars

Manicure Sets

Golf Balls

Hosiery Lingerie

Playing Cards

BEAUTY • DISTINCTION • AFTER-USE

In rich leather effects—molded simulations – wedgewood and worked metal reproductions. SMITHCRAFT offers a new and unusually flexible process for the effective interpretation of packaging ideas...refreshingly different, thoroly practical, and—**relatively economical.** No matter what your product or what your packaging problem, our staff can make interesting and helpful suggestions. We invite your inquiry.

THE S. K. SMITH COMPANY
2857 NORTH WESTERN AVENUE CHICAGO, ILLINOIS
***New York Office,** 52 Vanderbilt Ave.—MUrray Hill 2-8290*

The cover of this book is a SMITHCRAFTED product. Also used on 1935 and 1936 Packaging Catalogues.

XUM

A Catalog Digest of The G



Lithwrite CARTONS

PURPOSE: For "stepping-up" package appearance economically.

METHOD: The smooth, hard finish of this brilliantly white board causes the inks to lay more evenly, to be brighter, to keep the same constant shade from one order to the next. It does not turn yellow from lengthy exposure to sun as do ordinary boards.

ANALYSIS: "Lithwrite" is a special surface that can be applied to any Gardner-Richardson carton board during its manufacture. Thus, it is available with any center, back liner or thickness that may be required.

The GARDNER-RICHARDSON COMPANY
MIDDLETOWN • OHIO



HYDRO-TITE Cartons

PURPOSE: For moisture-proof protection of packaged products.

METHOD: Outside moisture stays out and inside moisture stays in. The tasteless, odorless and moisture-proof center of Hydro-tite is a definite barrier to dampness. Seal End cartons made from Hydro-tite require no outer wrappers.

ANALYSIS: Hydro-tite is a special inner liner than can be applied to any Gardner-Richardson carton board during manufacture. Thus, it is available with any printing surface, back liner or thickness that may be required.

The GARDNER-RICHARDSON COMPANY
MIDDLETOWN • OHIO



GREASENE Cartons

PURPOSE: For economical protection of packaged products with a grease or oil content.

METHOD: Grease spots are eliminated because Greasene prevents oils from seeping through the package walls. Rancidity is retarded because Greasene stops absorption of the oils by the carton board. Different grades are available according to the amount of protection required by your particular product.

ANALYSIS: "Greasene" is a special back surface that can be applied to any Gardner-Richardson boxboard during its manufacture. Thus, it is available with any printing surface, inner liner or thickness that may be required.

The GARDNER-RICHARDSON COMPANY
MIDDLETOWN • OHIO

GARDNER-RICHARDSON
HAS THE
CARTONS
CARTON BOARD
AND THE
SERVICES



● GIVE WINGS TO SALES . . . . WITH GARDNER— RICH

XUM

GARDNER-RICHARDSON COMPANY'S

SERVICE to the PACKAGING INDUSTRY



EVERYDAY *Cartons*

PURPOSE: For commercial cartons that are better than average in the following important characteristics: Sturdiness, Style, Finish, Printing, Economy.

METHOD: We exercise complete control over the manufacture both of the board and the finished cartons. Our equipment is the most modern available. Tremendous purchasing power from dependable sources of supply is ours. These factors, plus our many years of specialized experience account for the high standard that distinguishes all Gardner-Richardson regular cartons.

The GARDNER-RICHARDSON COMPANY
MIDDLETOWN • OHIO



DESIGN *Service*

PURPOSE: To increase the sell-selling qualities essential at the point-of-sale.

METHOD: (1) Advice on improving your present carton or case, all on work and mechanical construction is carefully worked out.

ANALYSIS:

In working out the DESIGN for your package, whether it is our original or your own suggestion we submit our sketch of suitable cartons: (1) Flat sheet layouts of cartons. (2) Perspective sketches on cartons made in size

In working out the STYLE for your package, whether it is our original or your own suggestion, we submit our sketch of three ways: (1) Flat sheet layouts of cartons. (2) Perspective sketches on cartons made in size for machine packing. (3) Hand samples for order. (3) Sketches or descriptions of suggested changes.

The GARDNER-RICHARDSON COMPANY
MIDDLETOWN • OHIO

● These five miniature catalog pages visualize and describe the variety and scope of each Gardner-Richardson Carton Service.

There are three points common to all cartons illustrated in these catalog pages:

Every carton made by The Gardner-Richardson Company, no matter what the carton board may be, takes printing handsomely. Each is sturdily made to endure rough handling in shipment and at the point of sale. Each is a practical carton designed to speed up production in your packaging department.

Choose the Gardner-Richardson carton that best fits your need with complete confidence that it will deliver the sales performance and product protection that you require.

Write for full details concerning any or all of your packaging services.

THE GARDNER-RICHARDSON CO.

MIDDLETOWN, OHIO

● **SALES REPRESENTATIVES IN PRINCIPAL CITIES**



22



23



24

22. GREENLEAF LOCK CARTON. Locks at each end securely. Widely used for packing dried fruits and other heavy, bulky products. Also serves as a shelf container holding twelve individual cartons as shown.

23. PETERS LOCK CARTON. Similar to Colonial style. Derives its name from Peters' machines which are used for automatic forming and lining. Widely used for biscuits, crackers, lard and shortenings and adaptable to wide variety of large volume products.

24. QUICKLOC STYLE CRACKER CADDY. Originally a caddy was a container for bulk goods, which were dispensed in small units. Illustration shows one holding five pounds of crackers which is bought by many consumers. One-piece collapsible construction with patented bottom which is quickly set up. Two corners of cover require metal stitching by user.

25. PURE-PAK SANITARY SINGLE SERVICE CARTON. A practical, economical paper container for milk and other liquid and semi-liquid products. Glued bottom with top sealed by means of staple through the flaps. Patented.

26. DUMMY DISPLAY CARTONS. Display units of this nature are widely used by tobacco manufacturers for dealer window displays. Shipped flat and so scored that they are quickly set up by pressing on both ends simultaneously. Save tying up salable merchandise in displays and possible spoilage due to exposure to sun and dust. Available for other products. Patented.

27. GIANT PYRAMID DUMMY CARTONS. An effective pyramid window display made up of three folding boxes. Easily set up and placed in position, and when knocked down may be put away for later display.

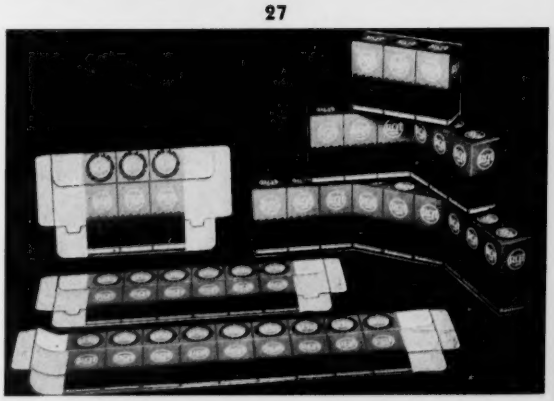
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26

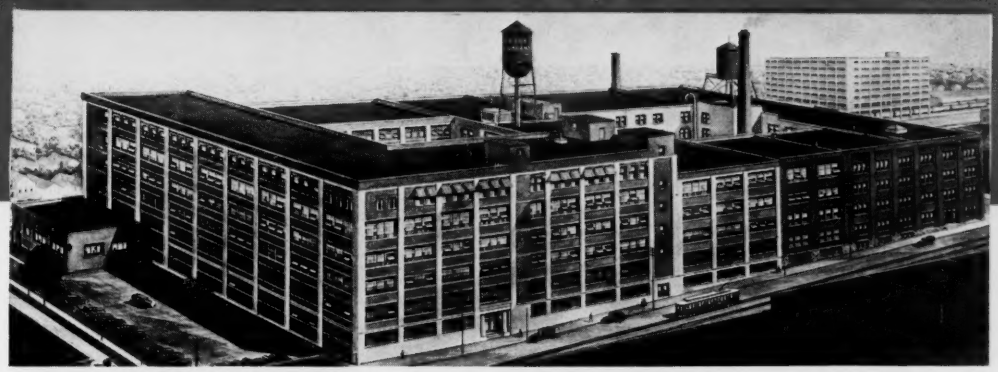


27



WE'RE THE WORLD'S LARGEST

. . . but what does that mean to you!



If you are running a firm of average size, your entire year's box order wouldn't call for more than a half-day's production in our plant. If your firm is a giant in its field, it might take us a week—through the year—to meet your needs.

Yet our size and capacity . . . as the world's largest producer of set-up paper boxes . . . can mean just as much to you as it does to our eleven-hundred-odd clients. Here are a few things it can bring you:

- *Rush order tickler service:* A plant as large as ours can meet your peak needs in a presto-chango manner.
- *Special, cost-cutting machinery:* Our volume production can keep special high-speed machines busy that would—in a smaller plant—eat away their own savings in idle time.
- *Expert design and merchandising service:* Only a volume as great as ours can justify the maintenance of a service department as large as the one that works for our clients, can justify the salaries we pay for the best men obtainable.
- *Year-round, trained workers:* Fewer seasonal slumps because our clients are in every line of business. Thus our workers work more days a year . . . stay with us longer . . . are far better trained than the average in the field.

These are but four of the advantages that size brings us . . . and that it brings you when you place your box problems before the experts of the F. N. Burt Company, Ltd. Write us. You'll like the way we work.



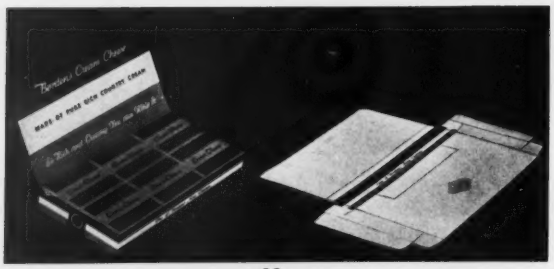
F. N. BURT COMPANY, INC.

500-540 SENECA STREET, BUFFALO, N. Y.

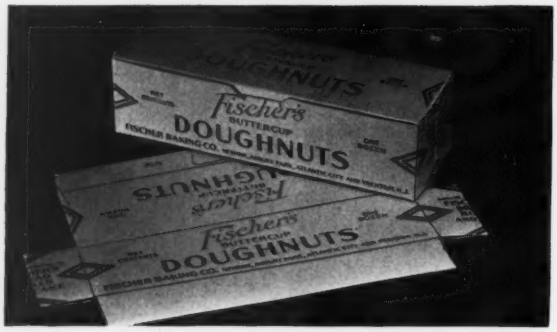
NEW YORK CITY—630 Fifth Avenue, Room 1461

CHICAGO	PHILADELPHIA, PA.	BOSTON	CLEVELAND, OHIO	SOUTHERN OFFICE	CALIFORNIA OFFICE
919 N. Michigan Ave. Room 2203	A. B. Hebeler P. O. Box 6308 W. Market St. Sta.	702 Beacon St.	W. G. Hazen P. O. Box 2445 E. Cleveland, Ohio	Frank D. Jackson 2150 Washington Ave. Memphis, Tenn.	Louis Andrews, Hamilton Club Grand Ave. & Wilshire Blvd. Los Angeles, Calif.

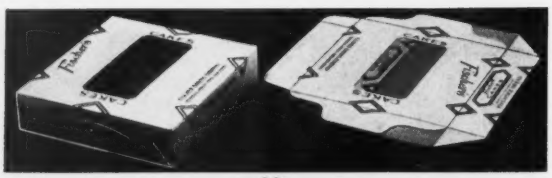
Canadian Division—Dominion Paper Box Co., Limited, 469-483 King Street West Toronto 2, Canada



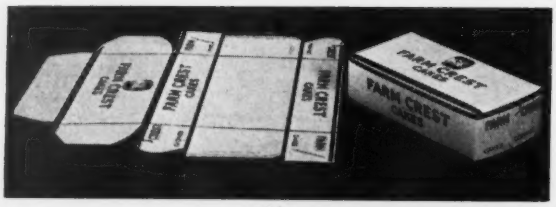
28



29



30



31



32

28. TILTING DUMMY CARTON. A special straight tuck carton with display panel and tilting device. May be made to hold any desired number of dummy packages for display purposes. Excellent for perishable articles, like cheese and butter, ordinarily kept in store refrigerators and out of the consumer's sight. This unit brings the packages out into open display stimulating increased sales.

29. ONE-PIECE COLLAPSIBLE CARTON. A simple, one-piece container serving as a carrier especially useful where quick set-up and low cost are factors. Used for bakery goods, cigarettes and many other products. Shipped to user in knocked-down form, so that it occupies a minimum of storage space in warehouse or bakery. Extensively used for large scale production.

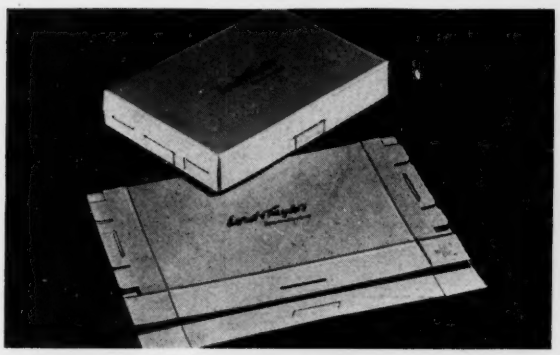
30. ONE-PIECE LOCK COVER CARTON. A quickly set-up carton, made with slots which lock in the cover, making this style especially well suited for bakery goods and similar products. Furnished with transparent cellulose window to allow view of product without opening carton, which is a most important factor in keeping food products fresh, and avoiding spoilage from exposure to dust, dirt, flies or frequent handling prior to sale. Is sometimes used with an inner band or liner, placed around a cake, the carton being made sufficiently high to prevent the cover coming into contact with the frosting, thus marring or otherwise destroying its original attractiveness.

31. ONE-PIECE CARTON WITH TWO HOOK CATCHES. An economical carton for local bakery use, where small quantities of several sizes are required. A catch lock on each end holds the carton upright. This style is not sufficiently durable to stand long distance transportation or rough handling, but is used by bakeries for packaging cakes bought in their own retail stores and carried home by consumers. Also used on routes for delivery truck-to-consumer purchases, in which case it is made with a window of transparent cellulose, to allow consumer to see the product without actually opening the carton. Economical to manufacture but not as easily set up as some other carton styles.

32. ONE-PIECE CARTON WITH FOUR HOOK CATCHES. Similar to preceding carton except that it is made with two catch locks on each end.

33. ONE-PIECE PILFER-PROOF CARTON. An excellent delivery container for department stores and specialty stores. Made with interlocking tongues and grooves which make it almost impossible to open package without marring or destroying it. Makes use of string or gummed tape unnecessary. Patented.

33

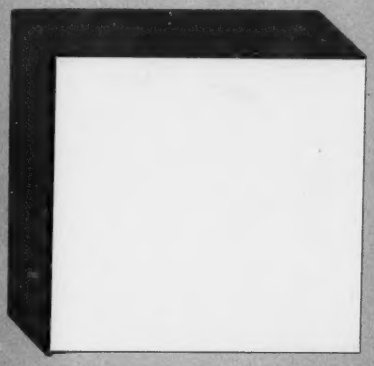




Ridgelo

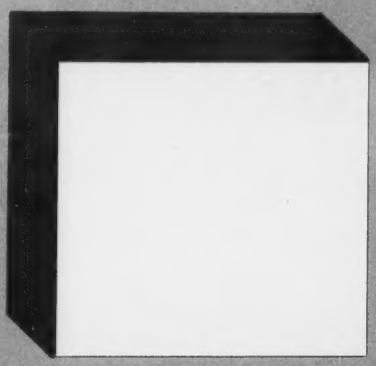
CLAY COATED BOXBOARD HELPS SALES LEADERS IN MANY FIELDS

• **RIDGELO Clay Coated Boxboard packages countless products successfully. In the drug and cosmetic field — from hair tonic to corn plasters. In the grocery field — from tea to cookies. In the automotive — oil. In sports — golf and baseballs. Smoking needs, liquors, gums, candies, what not! Now, whatever your carton packaging problem, RIDGELO can supply a definite answer. Here are a few of the grades developed to meet special demands.**



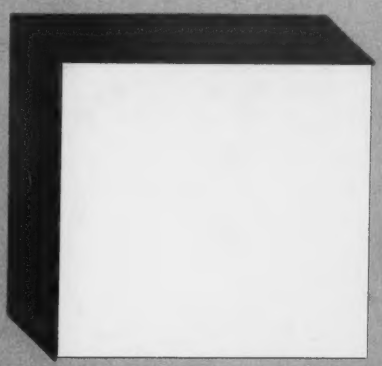
This is RIDGELO Folding Boxboard

1 For many years making every carton design look its best in colors, halftones or solids



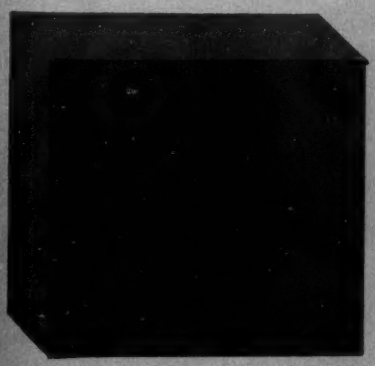
This is RIDGELO No. 41

2 A Lowe Paper Company development that gives maximum gloss to overprint or spirit varnish, with admirable printing qualities Protects the carton against dirt and moisture



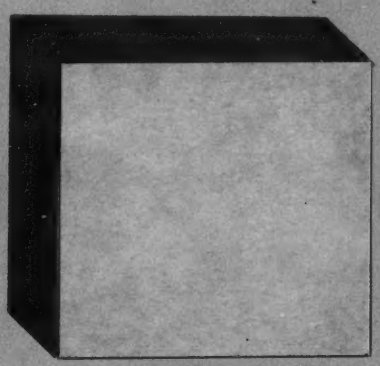
This is RIDGELO Brush Finish

3 A smooth coating that by appearance and delicate texture is recommended for fine cosmetics and other high quality merchandise



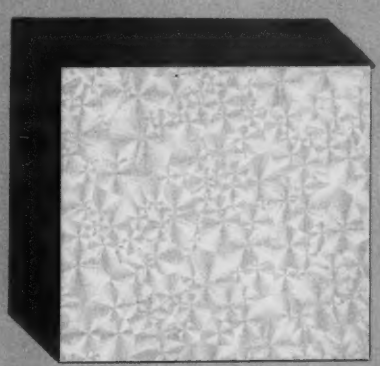
This is RIDGELO Embossed

4 A beautiful finish that lends distinction and identity to any packaged line Adaptable to many designs and all colors



This is RIDGELO Glassine Lined

5 It combines the printing advantages of RIDGELO clay coated and the grease resistance of a glassine liner



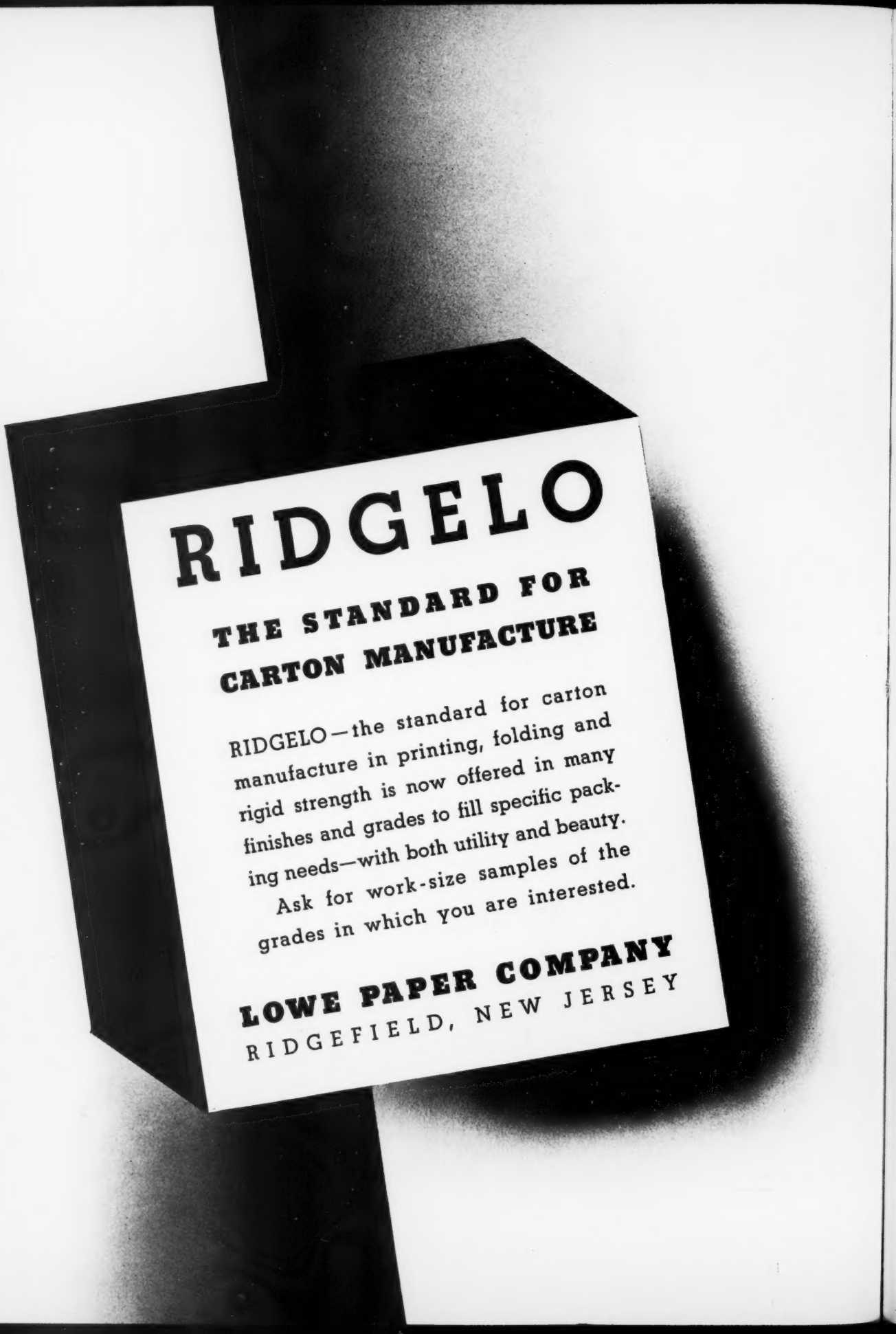
This is RIDGELO Crystallon

6 A carton of this board possesses a richness seldom found in the folding box field.

Ridgelo
CLAY COATED

MADE AT RIDGEFIELD, N. J., BY LOWE PAPER COMPANY
"THE BEST KNOWN NAME IN BOXBOARD"

Representatives: W. P Bennett & Sons, Toronto • E. C. Collins, Baltimore • A. E. Kellogg, St. Louis
MacSim Bar Paper Co., Chicago • Pacific Coast Distributors: Blake, Moffitt & Towne • Zellerbach Paper Co.


RIDGELO
THE STANDARD FOR CARTON MANUFACTURE
RIDGELO—the standard for carton manufacture in printing, folding and rigid strength is now offered in many finishes and grades to fill specific packing needs—with both utility and beauty.
Ask for work-size samples of the grades in which you are interested.
LOWE PAPER COMPANY
RIDGEFIELD, NEW JERSEY



ECONOMY—SECOND!

Of course, manufacturers of nationally distributed top quality products keep a careful eye upon costs.

But — it is an interesting fact that many leaders in their fields have chosen Simplex not primarily because Simplex cost less than other containers of comparable strength and durability — but because Simplex Boxes possess features shared by no other paper boxes.

In other words, the merchandising advantages of Simplex were the first consideration of these discriminating buyers — and the economy factor second.

SIMPLEX BOXES

will save time, money and floor space for you too. But more important, perhaps, is the fact that Simplex will provide a sturdier, more substantial container that will present your product to its best possible advantage. Let us tell you why so many other winners have chosen Simplex.

SIMPLEX

Trade Mark
Made Under License In All Parts Of
The U. S. A. And Canada.

"The Solution to the Set-Up-Box-Problem"

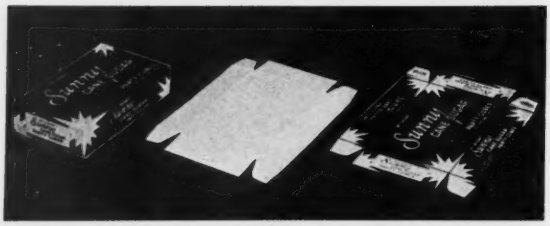
SIMPLEX PAPER BOX CORPORATION

LANCASTER, PENNSYLVANIA

XUM



34



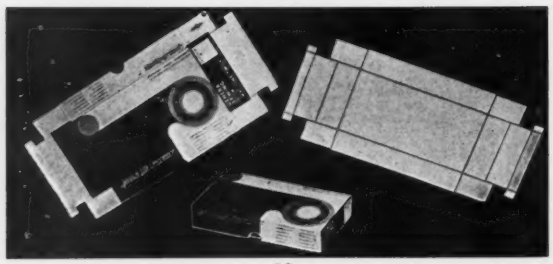
35



36



37



38

34. ONE-PIECE BRIGHTWOOD STYLE CARTON. A widely used one-piece carton for large scale production. Automatically formed, glued along the vertical panels, filled and sealed by Brightwood machines in the package user's plant. Definite economies in packaging can be effected by the use of this style carton if sufficient production is regularly handled to justify the use of this automatic equipment.

35. TWO-PIECE BRIGHTWOOD STYLE CARTON. Flat carton blanks are fed into Brightwood machines which automatically form and glue them into box and cover. Made in various styles, some covers fitting over boxes to full length—others only part way. Adaptable to wide variety of products but require large production.

36. ONE-PIECE SIMPLEX STYLE CARTON. Combines rigidity, finish and strength of set-up box and economy in cost, shipping and storage of a carton. Quickly set up without machinery. Made in all sizes from small candy boxes with extension edges to large containers for blankets. One-side printing. Made with or without display lids and slip-over covers. No raw cut edges or outside locks mar the outside printed surfaces or finished appearance of the carton. All Simplex cartons protected by patents.

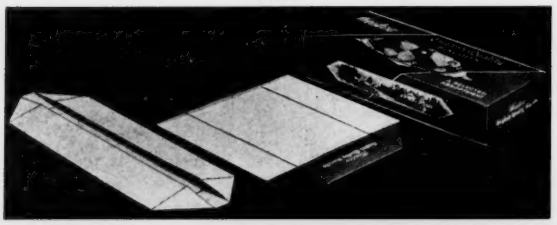
37. TWO-PIECE SIMPLEX STYLE CARTON. Similar to above but made in two pieces—box and cover.

38. TWO-PIECE TELESCOPE CARTON WITH OVERLAPPING ENDS. This style carton assembled and folded by hand. Ends overlap and are held against the side by friction, but may be glued for additional reinforcement. A development of the overlapping end carton is an extra tab provided as an additional protection at the corner. A similar reinforcement along the sides can be provided thereby eliminating the necessity of preliminary gluing.

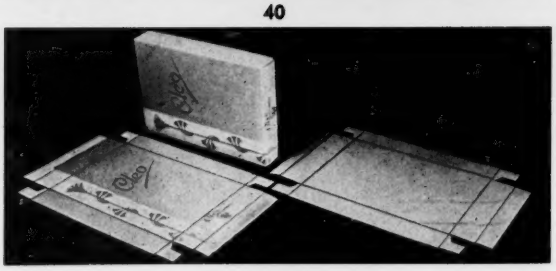
39. TWO-PIECE FULL TELESCOPE CARTON. These cartons are glued in collapsible form by carton manufacturer and shipped to user in that manner. Quickly set up by simply pulling them open.

40. TWO-PIECE FULL TELESCOPE CARTON. An economical, substantial container quickly assembled by hand and adaptable to automatic machine set-up. Made with reinforced side and end walls in variety of types.

39



40





The modern trend of the boxes and displays shown, is but representative of the countless other designs that may be seen in the ARROW *showrooms.*

Few organizations can offer to their clientele so complete a range of manufacturing facilities for the production of such varied types of boxes and displays.

That is why ARROW includes among its customers so many of the nation's important manufacturers in the jewelry, cosmetic and allied fields.

That is also why ARROW products, a few of which are illustrated above, show such variety of treatment, such breadth of styles and such diversification in the use of materials.

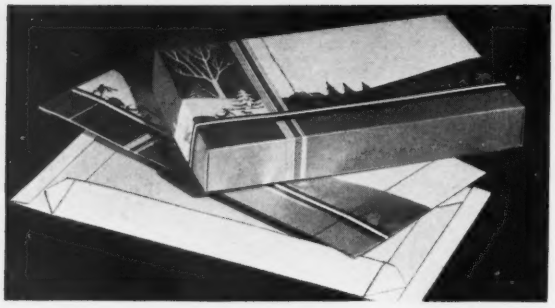
A visit is sure to be of interest to you—or an ARROW representative, trained to think in terms of merchandising, will be glad to call.

ARROW

MANUFACTURING COMPANY, INC.

Fifteenth and Hudson Streets, Hoboken, N. J.

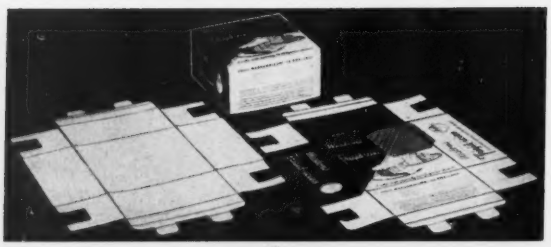
Telephones - REctor 2-1251 HOboken 3-8472



41



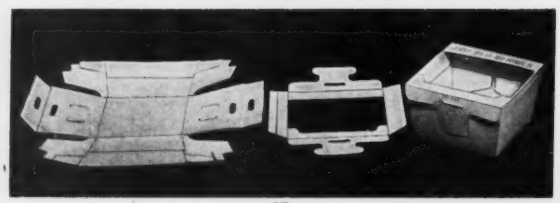
42



43



44



45

41. TWO-PIECE FULL TELESCOPE DELIVERY CARTON. Shipped flat and readily set up by simply pushing in the stapled ends which provide locking slots into which the side extensions fit. Well adapted for dresses, suits, overcoats and other wearing apparel, and in general department store use.

42. TWO-PIECE LOKTITE STYLE CARTON. A new carton construction which is rigid, easily set up and free of locks or laps on the exterior surfaces. Corners fit snugly, sidewalls cannot loosen or pull out and carton holds its shape even when only partially filled. Used for bottled, canned and loose-wrapped heavy or irregular articles. Made in both one- and two-piece styles.

43. TWO-PIECE OVERLAPPING BOLT-END CARTON. A strong and substantial container for heavy and bulky products such as hardware. Overlapping sides and ends in box and cover give adequate protection to the product.

44. TUBE AND SLIDE CARTON. Consists of a folding bottom, variously contrived, to be inserted in a tube, on which the design is printed. Access to contents is easy and quick and this style carton is well suited for pills and capsules which may be carried in the consumer's pocket. In larger sizes offer adequate protection for wide variety of products, such as the cigar packs, holding five or ten popularly priced cigars, which may be safely carried in the pocket offering adequate protection to the product and ready accessibility to the consumer at all times.

45. BERRY AND VEGETABLE CARTON. This type of carton has proved its adaptability to replace the ordinary wooden basket used for berries, small fruits and vegetables. Overlapping sides are wire stitched to set in proper position to use. Raised bottom and slotted sides insure proper ventilation for contents. Can be equipped with transparent window cover with locks to hold it secure.

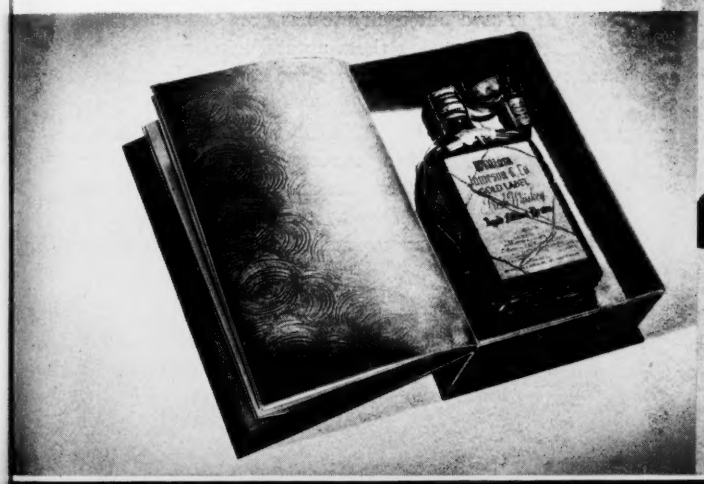
GROUP NUMBER TWO: DISPLAY CONTAINERS

Four-Sided Flat-Bottom Displays

1. CLIMAX STYLE DISPLAY CONTAINER. A practical, easily set-up display unit for three, six, twelve or more individual packages. Offers advantage of container with white inside yet requires only one-side printing. Display panel held erect by supporting flap. Excellent for drug products. Requires protective cover for shipping, to hold unit intact and keep it clean.

1







All American Package Competitions—sponsored by MODERN PACKAGING—emphasize "SET UP BOXES BY BISLER" are leaders.

The William Jameson & Co., Ltd., "OLD IRISH CUSTOM" Whiskey Package—a Bisler Box—won the GOLD AWARD for 1935.

Our staff of experienced designers, printers, and box builders are at your service, to make distinctive packages for you.

G. A. BISLER, Inc.

FIFTH AND BROWN STREETS
PHILADELPHIA, PA.

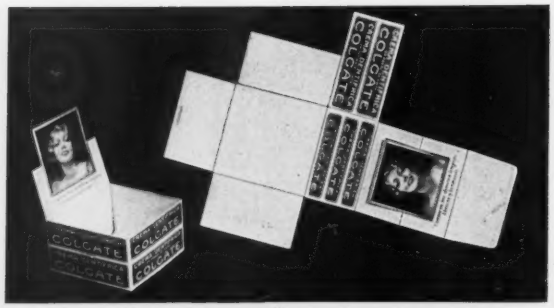
29 WASHINGTON STREET
BROOKLYN, NEW YORK

"BISLER BOXES BRING BUSINESS"

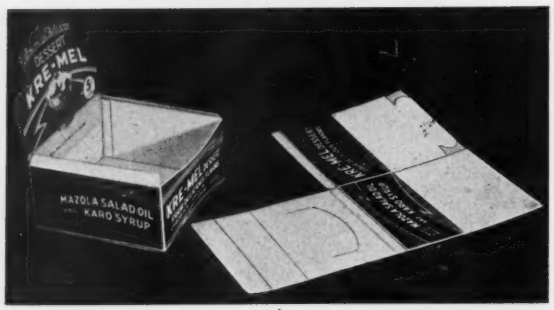
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2



3



4

2. QUICK SET-UP DISPLAY CONTAINER. An efficient container and display unit. Die-cut cover offers excellent advertising display, with good visibility for merchandise, which encourages inspection and immediate purchase. Simple in construction, easily set up and economical in cost. Its most popular use is for one dozen units, such as paper wrapped toilet soaps, or products packaged in individual cartons, such as automotive and hardware items. Does not require protective sleeve, as cover closes with front and side tucks.

3. PANEL-FOLD DISPLAY CONTAINER. A widely used style because of its economy, ease of set-up and excellent display. Die-cut cover folds back to give good visibility to displayed items. Protective cover optional.

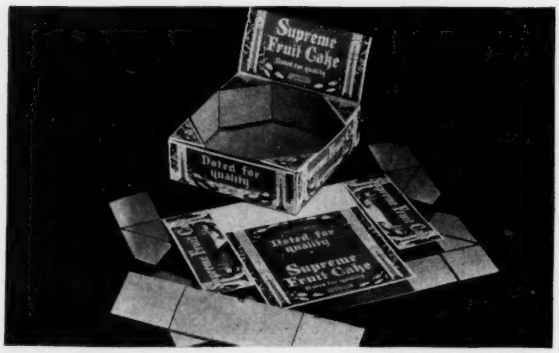
4. PANEL-FOLD DISPLAY CONTAINER WITH LOCK BOTTOM. Similar in general appearance to the panel-fold, except that locking device is on bottom. Can be glued by automatic machinery with resultant speed and economy.

5. BROOKS TWIN DISPLAY CONTAINER. A new patented twin display container, the two sections nesting into each other, giving the dealer two distinctive counter displays. Economical in cost and easy to set up in the retail store, and assemble at the factory.

6. NOVELTY OCTAGONAL DISPLAY CONTAINER. An attractive, economical container combining the qualities of a square outside package, with either a hexagonal or octagonal inside. One-piece overlapping front style. Quickly sets up and is reinforced on all four sides. Displays round products to advantage, varying from fruit cake and link sausage to coils of rubber hosing. Display advantages of octagonal and hexagonal packages well known but their use has been limited due to the difficulty of setting them up and inability to stack them evenly on dealers' shelves and counters.

7. FIVE PANEL DISPLAY CONTAINER. An established style rapidly being made obsolete due to its requiring printing on two sides and necessitating inserting goods from side. Display panel held erect by supporting flaps. Display, top and three side panels printed.

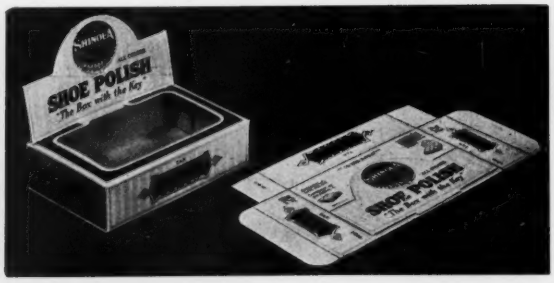
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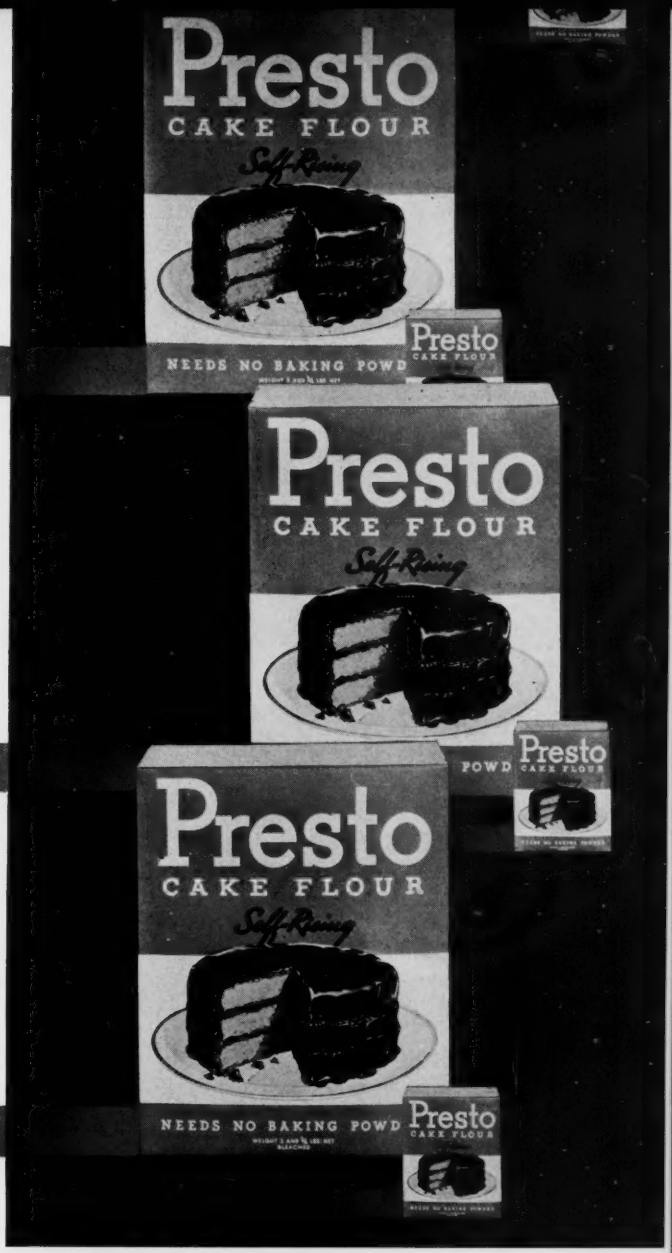


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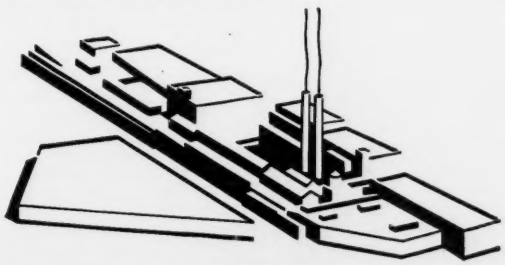
JUMBOS

CLICK!



A GIANT REPRODUCTION of your package will prove an effective salesman.

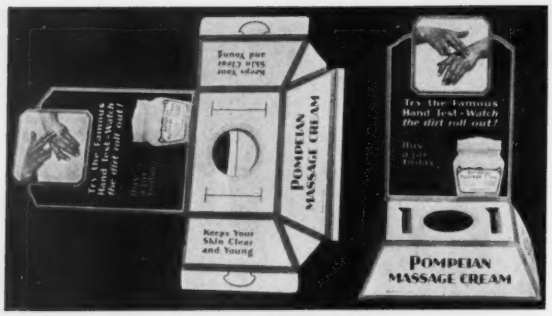
Suggestions and estimates furnished without any obligation.



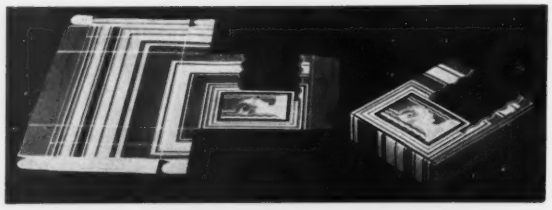
MICHIGAN CARTON CO.

★ BATTLE CREEK, MICHIGAN ★

XUM



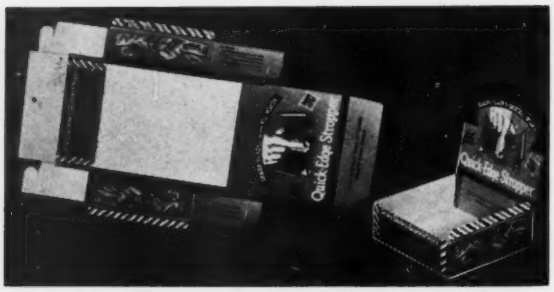
8



9



10



11

8. FIVE PANEL DISPLAY CONTAINER WITH BEVEL BASE. An adaptation of the "trial" or "sampler" counter display. Platform base with proper slots holds articles ready for sampling. Made in form of regular tuck end carton, with extended display card, which is easily set up. This display container illustrates a point frequently overlooked or insufficiently considered in consumer selling campaigns, namely, sampling in retail stores. House to house sampling is a common practice, however, the best result it can accomplish is a determination to buy, whereas when the buying impulse is aroused in a retail store it can be satisfied immediately by purchasing a full size package of the product that has been sampled. Inasmuch as it is a common desire to try or test products before purchasing them, to make sure they will taste as good as they look, that they will accomplish the result promised, or otherwise insure the consumer's getting "her money's worth," a definite attempt should be made to have this sampling done at the point-of-sale to get the quickest, most positive and most profitable result. A manufacturer of a hand lotion can, for example, reach and influence hundreds of consumers with a small display of this nature in which a bottle of his lotion is affixed with a convenient, easily operated dispenser, which will enable women visiting the store to test it out immediately on their own hands. If the effect is pleasant and convincing sales will be made on the spot, rather than waiting for some future time when it is very probable the matter will be entirely forgotten.

9. ONE-PIECE OVERLAPPING SIDES DISPLAY CONTAINER. An extensively used style for dozen unit displays. Made with Arthur locks which facilitate set-up. Overlapping sides provide strength and rigidity.

10. NOVELTY OVERLAPPING SIDES DISPLAY CONTAINER. This patented style has two special features: a small easel prevents display from falling over backward, and the display panel may be pushed back on an angle, effectively displaying goods in tilted position, so they will be readily seen.

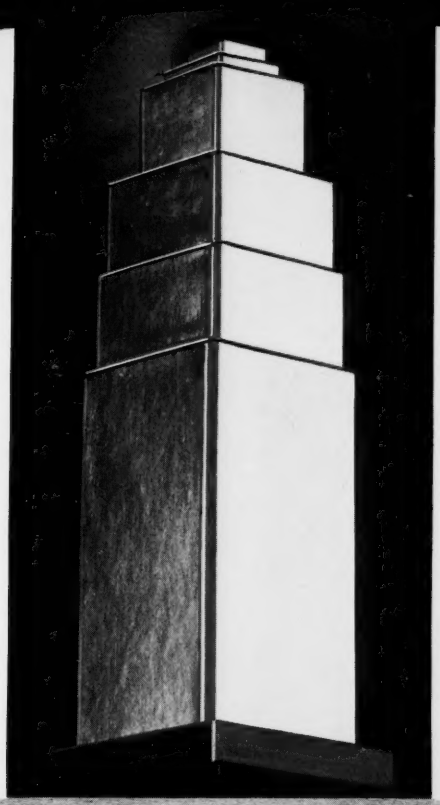
11. ONE-PIECE OVERLAPPING FRONT DISPLAY CONTAINER. Of the same type as No. 9, with adequate strength provided by overlapping front construction, held securely by Arthur locks. Economical in cost and easy to set up.

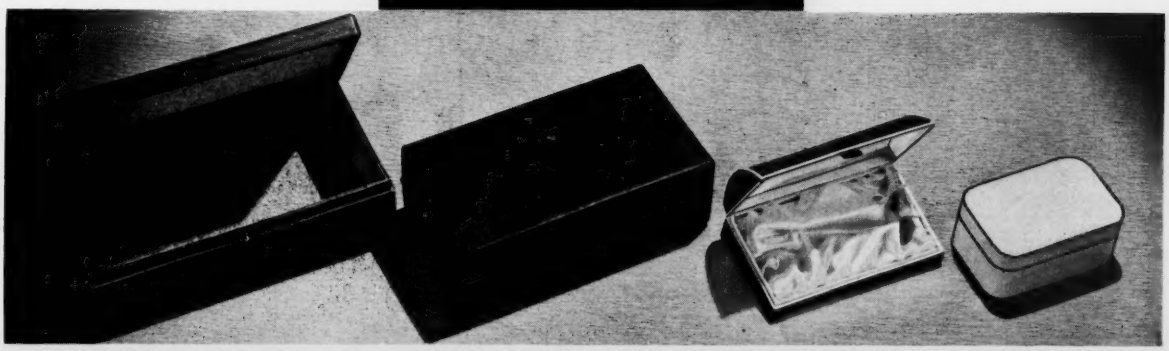
12. ONE-PIECE OVERLAPPING FRONT DISPLAY CONTAINER WITH SLEEVE. A simple, readily assembled display container, suitable for wide variety of products. Requires sleeve for shipping. Overlapping panel is extended to provide double bottom. Display panel automatically assumes upright position upon removal of sleeve. May be paraffined when used with dairy products, such as display container illustrated. No gluing is required which makes it economical in cost.

12



A TOWERING BUSINESS . . . built on the humble box





Perhaps we should say the not-so-humble box. For the set-up paper box, under the hands of Wm. Buedingen designers and craftsmen becomes a thing of beauty, a sales-compelling aid to any business builder.

Note the few boxes shown on this page . . . differing in shape . . . differing in purpose . . . but alike in one thing . . . in high, uniform quality and distinction.

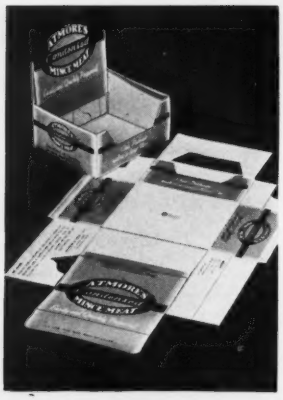
As with these boxes, so with your own. A Wm. Buedingen design, plus Wm. Buedingen craftsmanship . . . will give your product a long start towards a sales record. We invite your inquiries.

P. S.—Look closely and see—not a tower—but a Wm. Buedingen made box . . . beauty in boxboard, foil and skill!

Wm. Buedingen & Son.

1500 CLINTON AVE. NORTH ROCHESTER, N. Y.

New York Representative: F. J. Redding, 30 E. 42nd Street



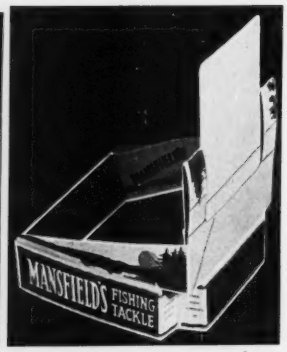
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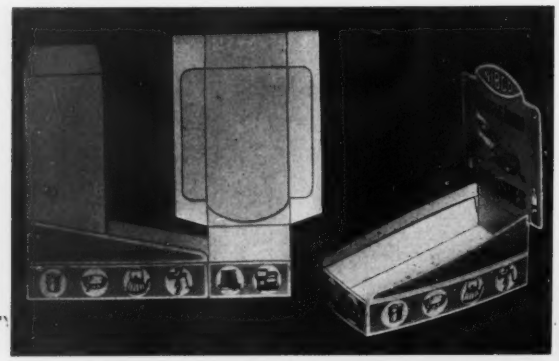
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16



17

13. ONE-PIECE OVERLAPPING FRONT DISPLAY CONTAINER WITH ROUNDED EDGES. The advantage claimed for this patented container over similar ones now in use is that the front cutout usually shows raw, unsightly edges, whereas in this style the front overlapping of the stock produces nicely rounded edges.

14. FRONT PANEL, LOCK BOTTOM DISPLAY CONTAINER WITH POCKET. An ingenious display by which contents are sold from the stock packed in the main portion of the container, while the pocket front permits an effective continuous display of the actual article. Prevents unsightly gaps in the display line, which is a weakness in many display containers.

Tilting Displays

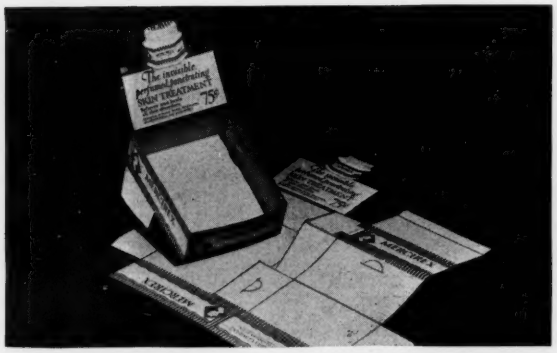
15. ANGLE TILTING DISPLAY CONTAINER. This style permits maximum visibility of packages displayed, due to simple, economical easel which holds the entire display unit at an angle. Patented. The use of a tilting display container, such as illustrated in the several different styles (numbers 15–25), is an attempt on the part of a manufacturer to draw preferred attention to his product. The theory is based on the fact that when the consumer stands at a counter it is easier to see goods displayed at an angle, tilted from back to front than looking down on a perfectly flat display. The tilting effect is secured either by some ingenious forming of the container, to act as a back support, or an easel, cut out of the back panel or from a separate piece of stock, glued to the back of the container. Some tilting displays fail completely because they are so complicated to set up that the dealer cannot easily see how to do it, or tears the container in his efforts, in which case he will not hesitate to empty it and throw it away.

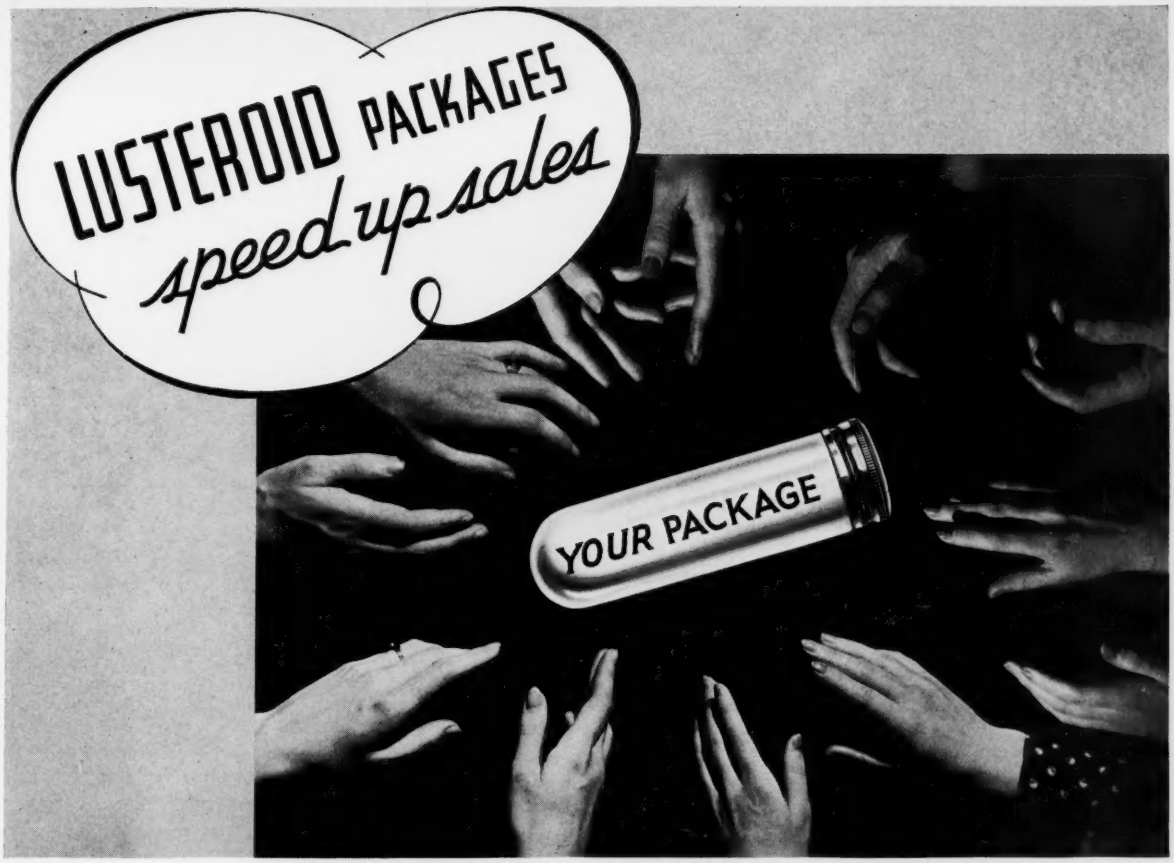
16. BROOKS SIMPLEX DISPLAY CONTAINER. A patented container displaying goods at an angle. Elevated section is supported by folding in the rear corners of the base. Made either with single display cover or fold-over display lid, requiring no protective sleeve.

17. BROOKS TILTING DISPLAY CONTAINER. This style is equipped with a rear tab which the dealer elevates and secures in the rear panel, effectively displaying the merchandise at a desirable angle. Patented.

18. SWINGING EASEL DISPLAY CONTAINER. A combination shipping-display unit with a novel swinging easel on bottom which dealer throws backward before displaying. Offers complete visibility of product. Easily set up, but requires protective sleeve for shipping. Requires only one-side printing. Patented.

18





Today, with competition for consumer acceptance at stake, the package plays an important part in merchandising. Eye-appeal at point-of-sale is half the sale. Alert merchandisers are quick to realize this factor. That is why there is an ever-increasing use of Lusteroid packages to spur sales . . . and profits.

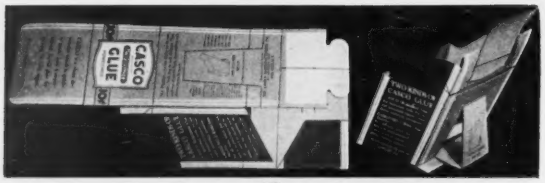
Lusteroid has many advantages in its favor. Its cylindrical shape is strong and unbreakable. Lasting qualities and lustrous finish prolong its eye-appeal and sales-value long after other packages have become dull and dingy. Its smooth, grainless, surface is ideal for printing and in most cases, eliminates that extra cost for labeling. For products to be seen, Lusteroid is transparent - for those requiring protection from eyes or light, it is opaque. A full range of colors in either finish.

For the unusual in packaging, consult this organization. No obligation, of course.

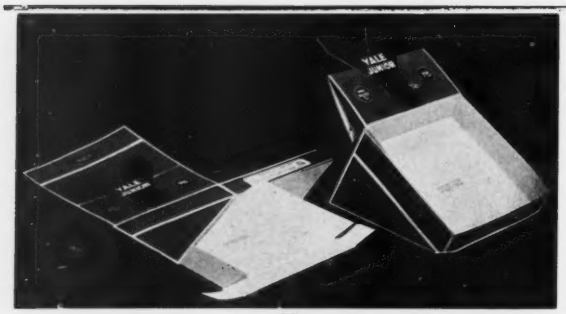
LUSTEROID
CONTAINER COMPANY, INC.

Formerly
The Lusteroid Division of
THE SILLCOCKS-MILLER CO.

10 PARKER AVENUE WEST, SOUTH ORANGE, NEW JERSEY



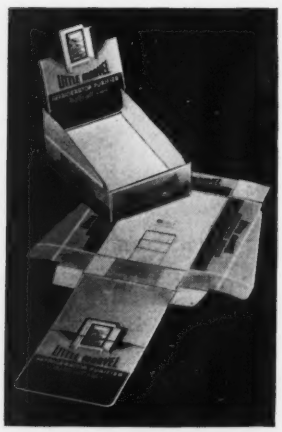
19



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21



22

19. TILTING EASEL DISPLAY CONTAINER. The tilting feature is simple in construction, simply pulling out of rear panel. Panel fold cover forms an excellent display. This style widely used for small packaged items such as tubes and bottles. The value of this display container, or any other style, lies not alone in the fact that it offers protection to the product, that it is a convenient display for a dozen packages, or that it employs some novel device to raise the goods off the level of the counter. A profitable display container makes itself seen even on a crowded counter and by showing in word and picture what the product will do for the consumer encourages her to buy it. To use the large areas available on display containers simply to identify the product is wasteful, when they can be better used for real selling messages.

20. SIMPLEX DISPLAY CONTAINER. A special easel permits tilting this container at different angles, for effective display. Requires printing and coating one side only. Protective sleeve necessary for shipping. Principal feature is the simplicity with which the dealer may display the goods at an angle. Display panel is equipped with supporting flap which enables advantageous showing of the advertising message at any desired angle.

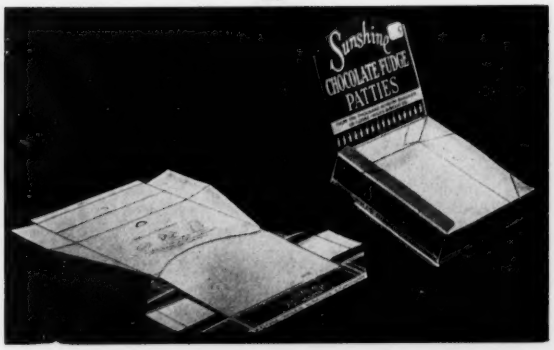
21. BROOKS DOUBLE-COVER DISPLAY CONTAINER. An elevating display in which the retailer must set up the display panel in order to uncover the contents, with a positive wing type support for elevated section of the container.

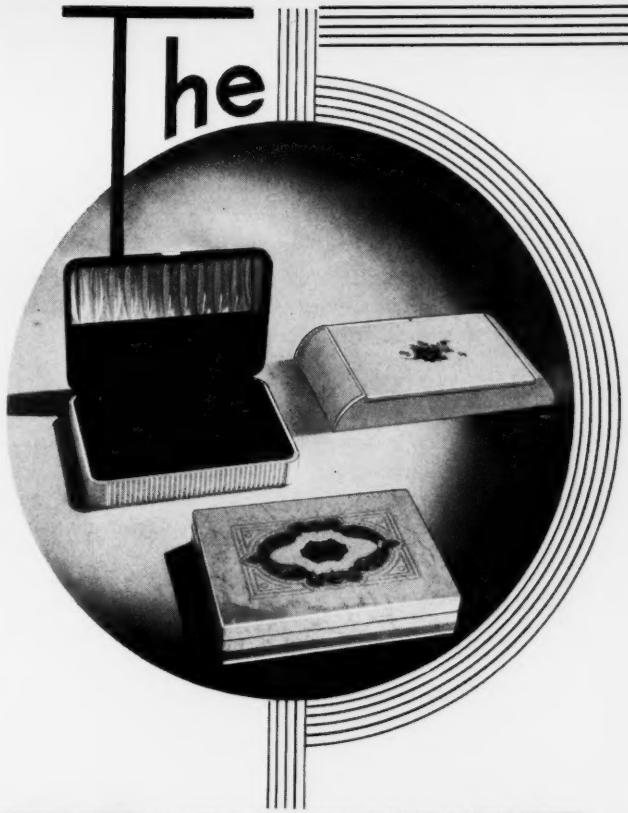
22. BROWN-BAILEY TILTING DISPLAY CONTAINER. This patented container is quickly converted from a flat to a tilting display. By pulling up a tab the top portion of the double-bottom is elevated, resting securely on two extended flaps, which form part of the back locking device. One-piece overlapping front construction, coated surface of board visible inside and out yet requiring only one side printing.

23. ROSE TILTING DISPLAY CONTAINER. A popular display unit in which the cover section forms an easel to display goods at angle. Requires printing on both sides of the board, which adds to its cost.

24. TINSLEY TILTING DISPLAY CONTAINER. A patented display, so constructed that the cover folds under to form an easel support, displaying goods at an angle. Display panel held erect by supporting flap. A widely used type of display container because of its simplicity in construction, its ease in setting up and because it has sufficient strength to act as a combination shipping and display unit. It is susceptible to fine printing, required only on one side.

23





VERSATILE

HOUSE OF RUECKERT



For more than half a century the versatile House of Rueckert has successfully helped many manufacturers to develop unusually attractive and unique designs in merchandise displays . . . We are proud of our work.

POINT OF SALE DISPLAYS ARE YOUR SILENT SALESMEN

"Point of Sale" displays that are designed to compel attention, create desire and stimulate action to buy is their job. We are well equipped with unusual talent to develop displays for any and all kinds of products. We have made displays for Oil Cans—We have made displays for the most delicate watches.

Perhaps your problem is displaying your merchandise itself in a distinctive container.

WILL YOUR PRODUCT STOP STORE TRAFFIC?

RUECKERT MANUFACTURING CO.

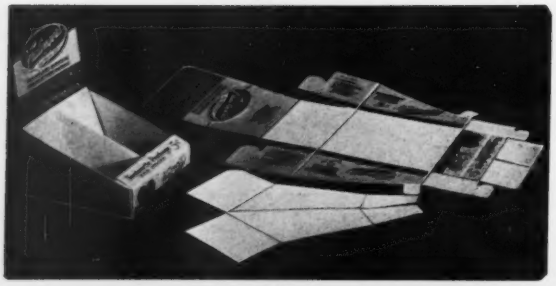
69 SPRAGUE ST. PROVIDENCE, R. I.



24



25



26



27

25. TINSLEY TRIANGULAR DISPLAY CONTAINER. Similar to other Tinsley display containers but made in triangular shape. Novel appearance insures consumer attention for small articles of odd shape.

Tier or Step Displays

26. GAIRWAY DISPLAY CONTAINER. An effective new type of display container in which the individual packages are displayed in a staggered manner. Particularly useful for fragile items packed in glassine or transparent cellulose bags. Keeps packages in neat position while on display.

27. RHOMBOID DISPLAY CONTAINER. The sloping sides and special construction of this container permit of displaying goods in slanting tiers. Provided with protective sleeve it may be shipped packed in set-up form ready for dealer to display. Well suited for small items such as cartoned bottles and tubes.

28. RHOMBOID TIER DISPLAY CONTAINER. A novel development, combining the stepped and tilted back arrangements. Well adapted for display of small articles. Provided with inner packing and protective cover to ship in set-up form. Patented.

29. AUTOMATIC TWO-TIER DISPLAY CONTAINER. A small mass display for six or twelve individual packages occupying a minimum of counter space. May be shipped complete, in standard shipping case. Readily set up by pulling upward on back display panel until it locks in positive position displaying contents in two rows. Patented.

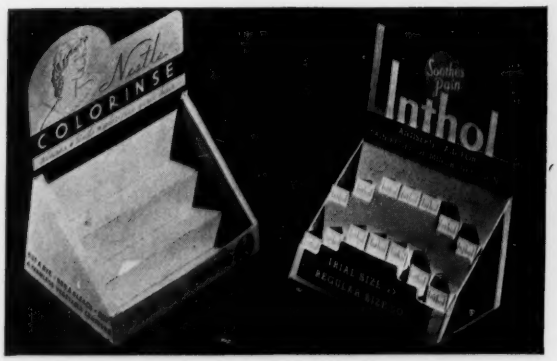
30. TWO-STEP DISPLAY CONTAINER. Patented display which shows products in two steps or tiers. Made in one piece, shipped flat. Easily set up by pushing down on two upright pieces which are scored to form the steps. Requires protective sleeve for shipping filled with merchandise. A simple, attractive display unit.

31. SKYSCRAPER (BROKEN BACK) DISPLAY CONTAINER. Patented container for displaying products in two tiers in an upright or "skyscraper" manner. Made with easel to hold second tier in raised position. Scored in center so that for shipping it folds up, but is readily set up for display by the dealer.

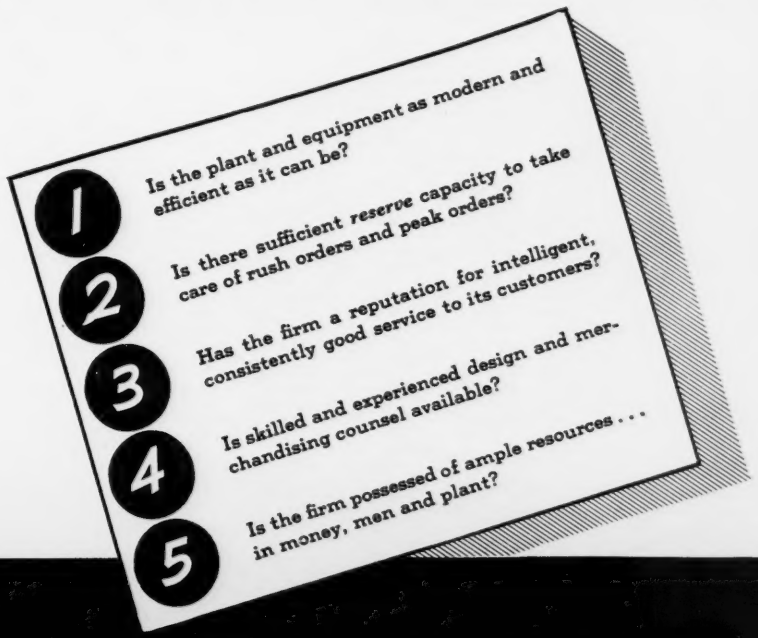
32. STEP-UP DISPLAY CONTAINER. An effective multiple-package display, showing products in two tiers. Display card is separate piece, fitting into position behind upper tier. Simple in construction. Requires no easel as base offers adequate support. Patented.

33. DARRAGH DISPLAY CONTAINER. The main feature of this unit is that contents, when loaded for shipment, are in an upright rectangular position, but when ready for counter displaying, they are thrown to a stacked position offering excellent visibility.

28



ASK THESE QUESTIONS BEFORE YOU SELECT YOUR SOURCE FOR PACKAGING



Apply these questions to GAIR CLEVELAND CARTONS, INC. and every answer will be "YES!"

Finding the right carton, set-up box, or shipping container source is a hard job. It is easy enough to select materials for packages or products. Standards can be set up, comparisons made and a quick conclusion reached.

But boxmaking, carton making, and shipping container making, are matters of service as well as materials. And this service is of vital importance to your entire manufacturing, merchandising and advertising set-up.

That is why we suggest the questions above . . . as a test for you to use in measuring this firm or any other firm . . . a fair test that will bring out the facts.

To each of these questions, this firm can answer, unqualifiedly, "YES!" We invite you to send for more detailed answers, related specifically to your own needs. No obligation, of course.

GAIR CLEVELAND CARTONS, INC.

10610 BEREA ROAD — CLEVELAND, OHIO

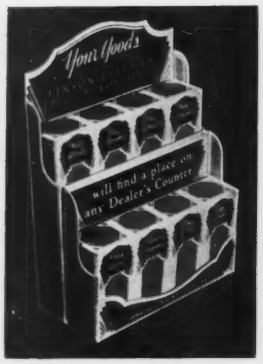
A DIVISION OF THE ROBERT GAIR COMPANY, INC.
FORMERLY THE PEERLESS PAPER BOX MFG. CO.



29



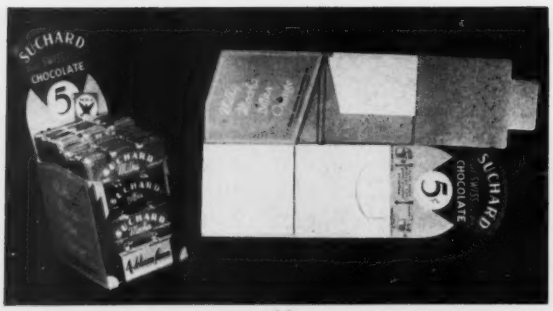
30



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32



33



35

34. THREE-TIER DISPLAY CONTAINER. An effective unit for twelve cans, displayed on three planes: two rows, three cans high, in back row; two rows, two cans high, in middle; and two single cans, set side by side, in front row. Made with "Quickloc" patented bottom, and nest for dividing back and middle rows.

Miscellaneous Displays

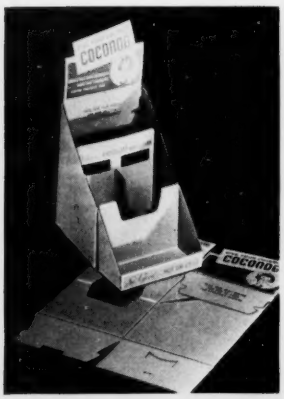
35. BASKET DISPLAY CONTAINER. A container designed primarily for aisle table and counter display of small packages of quick-sale type, such as gelatine desserts. Does not serve as shipper but is easy to set up displaying goods in studied disorder, encouraging self-service without disturbing unity of display.

36. BETTER-VIEW DISPLAY CONTAINER. A simple collapsible contrivance, displaying a two-piece telescope box. When erected, shows bottom with contents displayed at an angle, with the cover behind it acting as a display panel. A most economical display.

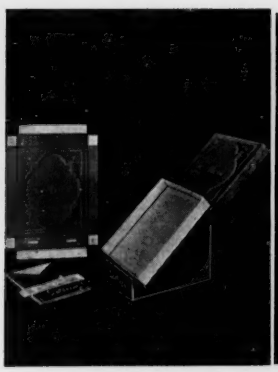
37. COMBINATION SHIPPER, DISPLAY AND DISPENSER. A straight tuck-end carton, perforated in the center, so that the top half folds back, holding a reserve stock of six packages. Main display panel is perforated at the top to form upright display card, and at bottom to expose six packages, ready for dispensing. Simple in construction, gives excellent protection to product and combines novelty with attractiveness in display. Made in several sizes. Patented.

38. PYRAMID DUMMY DISPLAY. An advertising unit only, replacing actual cartons and display containers. Pyramids are shipped flat and are easily set up by dealer for window, counter and shelf display.

34



36



37





THE RICHARDSON-TAYLOR-GLOBE CORPORATION
Creators · Designers and Manufacturers of Distinctive Folding Cartons and Display
4501 WEST MITCHELL AVENUE ★ ★ ★ ★ ★ CINCINNATI OHIO



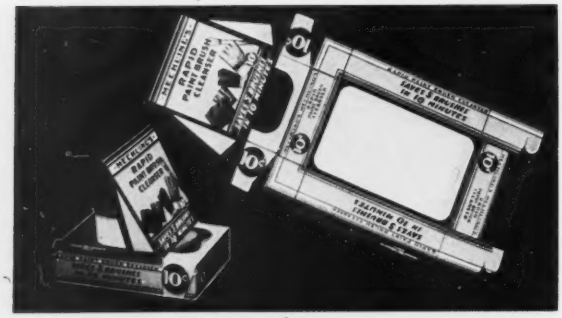
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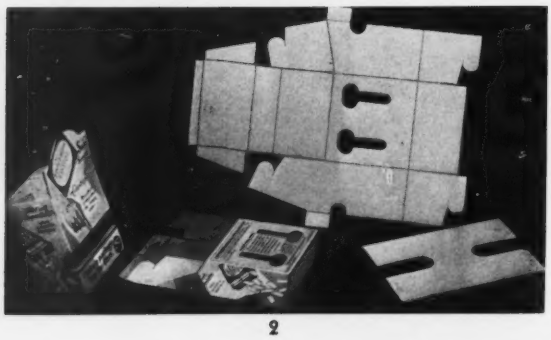
39

39. MULTIPLE-PRODUCT DISPLAY CONTAINER. Effectively displays a variety of different sized products. Construction uses a reverse tuck-end carton, with extended display panel, and a separate reinforced inner platform. Products rest securely on double platforms. Fitted with easel back so display sets at an angle. Even after several units are removed, this does not mar the beauty or effectiveness of this display.

GROUP THREE:
DISPENSERS (COUNTER AND WALL)



1



2

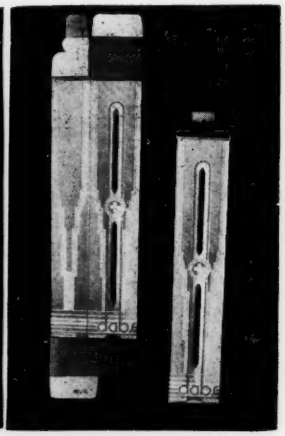
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1. COUNTER DISPLAY DISPENSER. A novel container in which the display panel, customarily placed at the back, is placed somewhat forward, so that only a few of the articles are displayed, the greater number being behind the display panel, from which position they are dispensed. Avoids disorderly appearance of partly filled displays after a few units are sold.



4



5

2. GRAVITY DISPENSER. Made with one or more separate inside dividers, the products falling into display position when the bottom one is removed. Easel permits displaying at any desired angle. The container also has a sales thermometer in the rear to show when to refill, which is a great convenience for the retail dealer.

3. PUSH-PULL DISPLAY DISPENSER. Holds twelve or more small packages, such as aspirin tins, in two interior slots or sleeves. Are dispensed by pulling or pushing a small flap extending from bottom right side slot. Pulling the flap dispenses one, from the right side, and when the flap is pushed in, one package is ejected from the left side. Possesses excellent display value on the front panel, and encourages self-service by the consumer, thereby saving the time of busy retailers and clerks. The illustration shows front and rear views of this new, patented display dispenser. Open windows in back panel tell clerks exact number of packages in the dispenser which may be refilled during idle moments.

4. CENTER-DIVIDER DISPENSER. A straight tuck-end carton with center divider, forming two compartments, made all in one piece. Readily filled, products falling into position with removal of bottom one. Stands erect on counter or may be hung on wall. Center divider construction a patented feature.

5. SELF-SERVICE DISPENSER. This high, narrow type holds a single row of packages, piled one on top of another, with an opening at the bottom through which they are easily withdrawn. Occupies minimum space on crowded drug store counters or may be hung on the wall or other available space.



VIALS
TUBES
CONTAINERS
SPECIALTIES

They look like glass-



BUT—*they are*
80% lighter in weight
. . . . unbreakable . . . .
made in ALL colors
eliminate labeling

Here is a type of container that offers *all* the finest features desired for packaging, obtainable in transparent or opaque colors; with labeling as "part of the manufacturing process." Money cannot buy, nor ingenuity devise a better container,—and yet its cost is remarkably low!

Use ***Hycoloid***

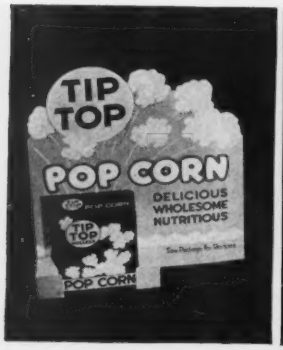
Plan now, to identify your product with the many Hycoloid advantages. Your inquiry for information will bring a quick response.

HYGIENIC TUBE & CONTAINER CO.

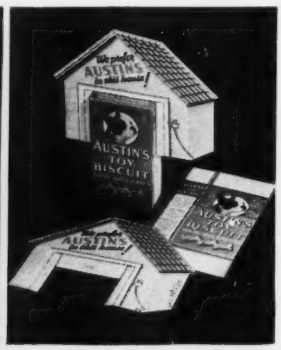
50 Avenue L., Newark, N. J.

GROUP FOUR:
COUNTER DISPLAY CARDS

1. ONE PACKAGE DISPLAY CARD. A popular, effective and highly economical method of getting one package displayed on the counter. May be made to fit in corrugated container with products so dealer cannot overlook it. Carton fits into position and holds display erect, saving cost of separate easel.



1



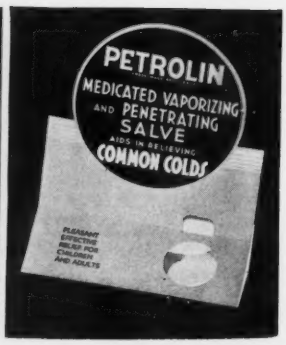
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2. FIT-OVER PACKAGE DISPLAY CARD. An inexpensive unit fitting directly on top of a carton thus making an effective counter or window display. May be die-cut in any shape, made adaptable to several sized packages and is the type to include in every case of goods shipped, to insure their being openly displayed.

3. SHADOW-BOX DISPLAY CARD. An inexpensive, effective two-piece unit, which raises the product above the level of the counter, displays it in a frame and gives close tie-up with advertising message. The base cuts out of the main display panel, with sides formed by another piece of stock, glued to back of main display.

4. HI-SPOT DISPLAY. A new development in displays. Holds a complete package right up on the glass of a show window or display case. Adaptable to all kinds of products and will support over a pound of weight, giving it preferred position. Patented.

5. BEVELLED-FRONT DISPLAY CARD. An excellent low cost display, easily set up by simply inserting a lip into a slot. Package is displayed on bevelled surface. Requires no gluing. Made in variety of sizes.

6. TWO-PLANE DISPLAY CARD. The feature of this unit is that it displays two products side-by-side on succeeding planes or tiers. Used for wide variety of products as well as different sizes of packages.

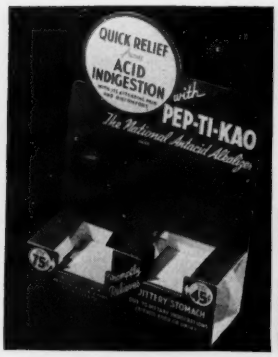
7. MULTIPLE-UNIT DISPLAY CARD. A coated blank die-cut with two shelves or lips holding twelve tooth brushes. A similar construction on the back holds a reserve stock of one dozen, making this an effective, economical display and dispenser for twenty-four units.

8. MULTIPLE-UNIT DISPLAY CARDS. Two practical units each holding twelve units, tubes suspended from die-cut lips, while brushes fit into die-cut pockets. Reserve stock of six tubes on back panel.

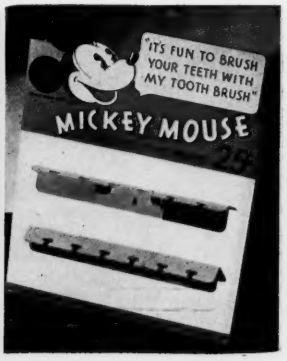
9. ONE-PIECE NOVELTY DISPLAY CARD. A simple card incorporating the use of the product itself making an effective display for window and counter. Limited to use with straight tuck-end carton which it displays at angle, and into which it fits.

10. TWO-PIECE NOVELTY DISPLAY CARD. The individual cartons displayed are made in triangular shape with tuck-ends, fitted with full-vision windows. This shape permits displaying double the number of units in half the space ordinarily occupied.

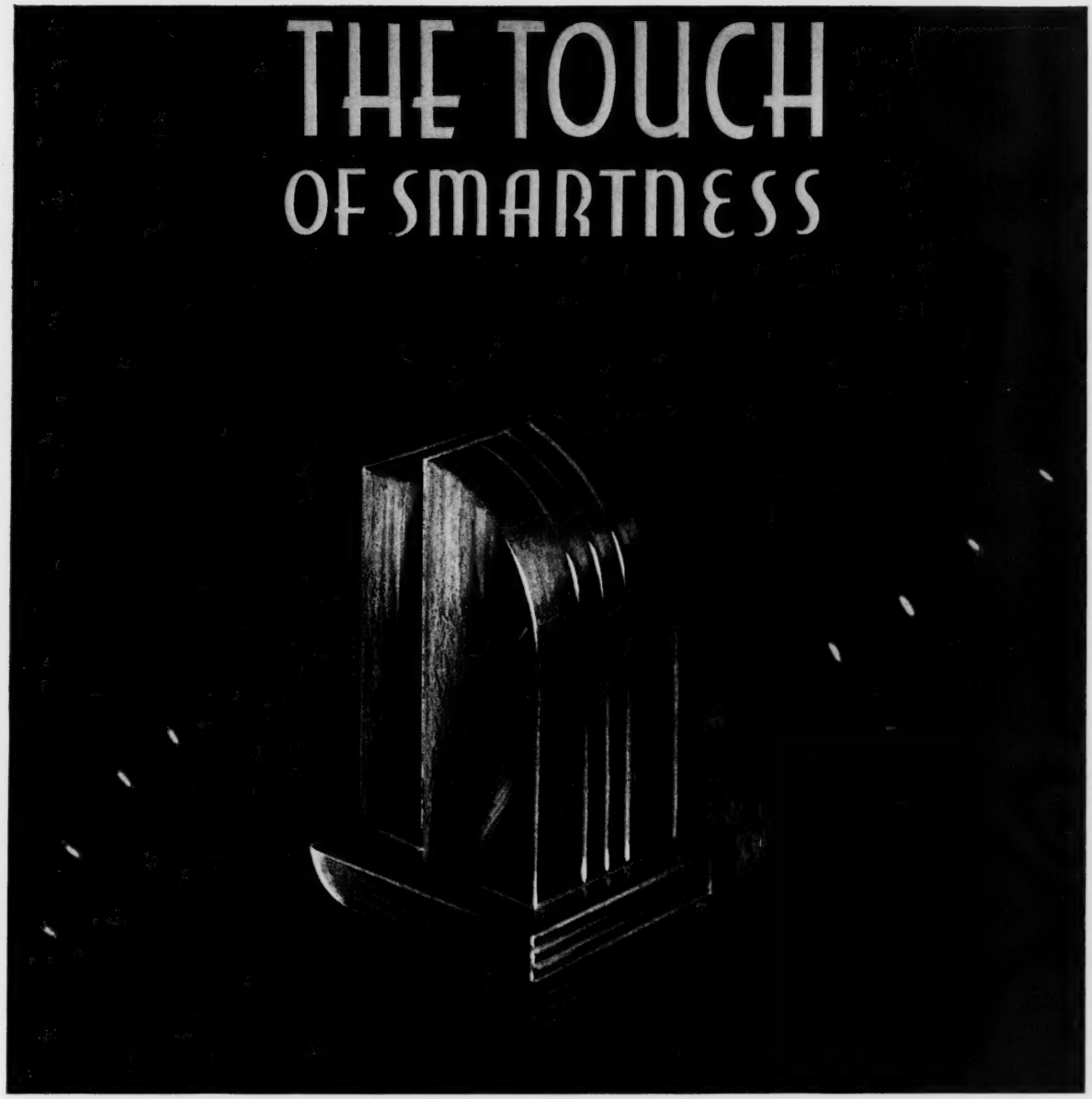
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7



THE TOUCH OF SMARTNESS



Whenever your requirements demand a package of exquisite beauty, delicate in detail and perfection itself in construction . . . you will find the ability to design and to produce quality unsurpassed among N. W. Parks craftsmen.

Creators of Beauty in Rare Woods, Leather, Metal, Paper and Combinations Thereof

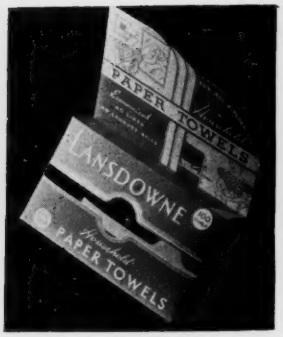
THE N. W. PARKS COMPANY

286 5th Avenue New York City



8





9



10

(See page 100 for description of above Counter Display Cards)

PARAFFINED CARTONS

WAXED or paraffined cartons were developed to fill a definite need, which had five peculiar characteristics:

1. Maintaining and protecting a moist, perishable product within the walls of its own original package.

2. Protection against the penetration of moisture, from the outside, through the walls of the original package (as in iced refrigerators).

3. Maintenance of the original sweetness and purity of a manufactured product against contamination by outside foreign odors.

4. A practical package for perishable and greasy products, fitting in with manufacturing operations, shipping, retail store handling, storing, sale and display, and convenience to the ultimate consumer.

5. Economy in labor, container, shipping and manufacturing costs, so that perishable and costly products may be swiftly, economically and attractively marketed to the general public.

While, with the development of the packaging art, new products are being constantly developed, the major ones especially adapted to be packaged in paraffined cartons are: Butter, oleomargarine, ice cream and sherbets, lard, vegetable shortening, smoked meats—such as bacon, sausage, etc.—and salted nut meats.

The product to be packaged will determine the style, size, stock and other characteristics of the particular paraffined carton. In general, there are three major classifications, as follows:

1. *Butter Cartons.* The paraffined carton is the most practical method available for packaging butter in prints, whether one pound solid, two halves or four quarters. The carton combines protection of contents, ease of handling, sanitation, identification and general attractiveness. Butter cartons are made in four principal styles:

1 lb. $4\frac{1}{2}$ Panel (Wrap Style)—$2\frac{9}{16}$ in. high × $2\frac{9}{16}$ in. wide × $4\frac{3}{4}$ in. long. Used for packaging a one-pound solid brick of butter, which is wrapped in parchment paper before being inserted in the carton. This style carton is usually filled (wrapped) by hand.

1 lb. Automat—$2\frac{5}{8}$ in. high × $2\frac{5}{8}$ in. wide × $4\frac{7}{8}$ in. long. Derives its name from the fact that it is filled on an Automat cartoning machine, which wraps four quarter-pound sticks in parchment paper and inserts them in the carton. May also be used to package two half-pound prints. The Automat is the same style carton as the $4\frac{1}{2}$ Panel, the dimensions being a trifle larger to allow more room than is required for a one-pound solid brick of butter.

1 lb. Glued—$2\frac{5}{8}$ in. high × $2\frac{5}{8}$ in. wide × $4\frac{3}{4}$ in. long. Used for packaging four quarters, two halves or one pound solid. Usually filled by hand. When used exclusively for solid pounds is made in a size $2\frac{9}{16}$ in. × $2\frac{9}{16}$ in. × $4\frac{3}{4}$ in.

1 lb. Eastern Flat—$1\frac{5}{16}$ in. high × $4\frac{3}{4}$ in. long × $5\frac{1}{8}$ in. wide. A new style square flat carton, offering more pleasing proportions than the ordinary square brick style, with excellent display value on the front and back panels. Made both in glued and wrap styles, and usually holds four quarter-pound sticks of butter.

Smaller Sized Butter Cartons. There is a limited demand for smaller sizes usually made as follows: $\frac{1}{2}$ lb. Glued Style—$1\frac{3}{8}$ in. high × $2\frac{9}{16}$ in. wide × $4\frac{3}{4}$ in. long; $\frac{1}{2}$ lb. Wrap (5 Panel)—$1\frac{5}{16}$ in. high × $2\frac{9}{16}$ in. wide × $4\frac{3}{4}$ in. long; $\frac{1}{4}$ lb. Wrap (5 Panel)—$1\frac{5}{16}$ in. high × $1\frac{5}{16}$ in. wide × $4\frac{3}{4}$ in. long.



ROWELL BOXES

quality at moderate cost made possible by our tremendous production facilities, our modern equipment and a designing staff second to none. Round, square and odd-shaped boxes are available in many unique designs or, our staff will be glad to aid you in planning a new design, along economical lines, to meet your market conditions. Write your needs.

E. N. ROWELL CO., Inc. Batavia, N. Y.

New York Office: SEWELL H. CORKRAN, 30 East 42nd Street Phone: MUrray Hill 2-3447

Hollywood, Cal., Office: C. H. E. DUNN, Guaranty Bldg., 6331 Hollywood Blvd. Phone: Hollywood 0111

St. Louis Office: The DICK DUNN CO., Merchandise Mart Bldg., 12th Blvd. & Spruce St. Phone: Central 3544

Chicago Office: HAROLD G. MacKAY, 444 W. Grand Ave. Phone: SUPerior 1676

Boston Office: H. P. TUCKER, 52 Chauncey Street. Phone: Hancock 0398

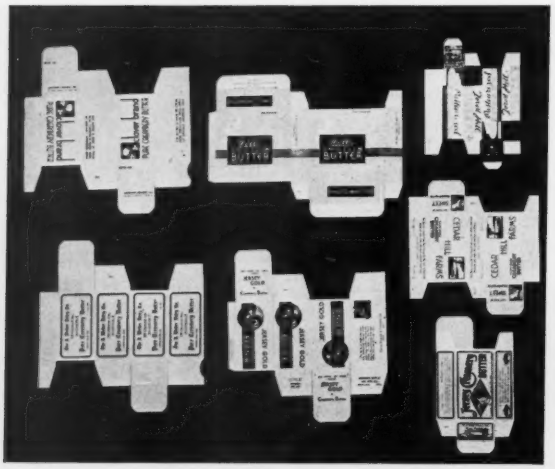
Detroit Office: H. E. BROWN, 2842 W. Grand Blvd. 319 Curtis Bldg. Phone: Trinity 2-0191

Both styles are used, in the 1/2-lb. size, for either a half-pound solid or two quarters, but usually for solids. These are all filled by hand.

2. *Ice Cream Cartons.* Cartons offer the ice cream manufacturer a clean, convenient, attractive, practical and economical method of packaging his ice creams, sherbets, ices, spumoni, etc., *at the factory* in consuming units, either pints or quarts. The three major styles of ice cream cartons are:

Trunk Style—2 3/4 in. high × 3 1/2 wide × 6 1/2 in. long, quart size. 3 1/4 in. high × 2 3/4 in. wide × 3 1/2 long, pint size.

The quart size is the most popular one for brick ice cream. The ice cream is poured from the freezers in liquid form into metal containers or forms, hardened, sliced (6, 8 or 10 pieces to the quart), the slices then individually wrapped in parchment paper and inserted by hand into the Trunk Style carton.



Top row, left to right: 1-lb. Automat style and 1-lb. Eastern Flat type. Lower row, left to right: 1-lb. 4 1/2 Panel style and 1-lb. Glued style. The three cartons at the right, from top down are: 1/4-lb. Wrap style, 1/2-lb. Wrap style, and 1/2-lb. Glued style

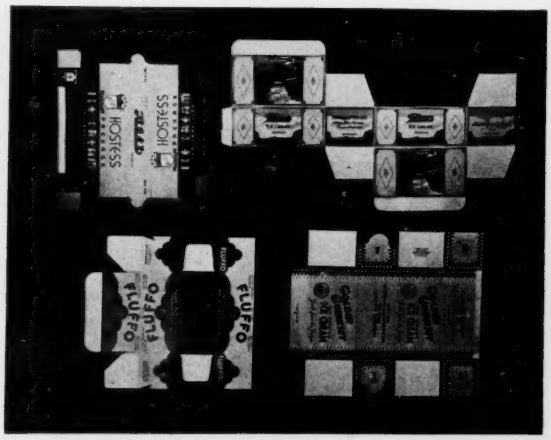
Linerless Style—2 11/16 in. high × 3 1/2 in. wide × 6 3/16 in. long, quart. 2 11/16 in. high × 3 1/2 in. wide × 3 1/8 in. long, pint.

As the name implies, this style requires no inner parchment paper liner, due to the fact that it is made of double bleached sulphite board, which is white on both sides. In regular use these cartons are closed on one end, from ten to forty-eight are placed in a tray, the ice cream is then poured into them, in semi-solid form, after which the open end is closed, and they are placed in the freezing room for hardening.

Refrigerator Style—1 17/32 in. high × 3 1/2 in. wide × 5 1/2 in. long, pint. This is a linerless style carton especially adapted to fit into one of the ice cube trays in an electric refrigerator in the home, keeping the ice cream in perfect condition until time to serve. Has enjoyed wide popularity during past few years, as it permits the consumer to keep ice cream for fairly long periods at home, without danger of its softening and becoming unusable.

3. *Lard and Shortening Cartons.* Packaging shortenings in cartons, rather than in tin pails, offers many economies and production advantages, and is consequently gaining in popularity. The most popular shortening carton is the Peters style, so named because it is automatically set up on a Peters machine. This carton has lock ends which are locked on a special machine which assembles the carton and inserts a parchment paper liner for filling. Made in five sizes: 1-, 2-, 3-, 4- and 8-lb. The top of this Peters style carton opens like a Trunk style ice cream carton, facilitating its closing after filling, and giving ready access to the contents by the consumer.

In their manufacture, the cartons are first printed and died-out, after which they pass through a bath of hot paraffine, followed quickly by immersion in frigid water, which "sets" or hardens the paraffine coating, and gives a high gloss. All cartons which are to be paraffined are made of either single or double bleached sulphite (either solid or manila liner), which is the only type of folding boxboard which retains its whiteness, when coated with hot paraffine. Standard weights are: .016 point for 1/4-, 1/2- and 1-lb. cartons; .018 point for 2- and 3-lb. shortening and pint and quart ice cream cartons; .020 point for 4-lb. cartons and .040 point for 8-lb. cartons.



Top row, left to right: Linerless style, ice cream carton, pint size; Trunk style, quart size. Lower row, left to right: Peters style; Linerless style, quart size

It has been conservatively estimated that products valued at around one-half billion dollars find their way from point of manufacture to retail stores, every year, packaged in paraffined cartons.



All the fine leather, delicate foils and rare papers in the world cannot—of themselves—make a memorable package. Yet, at the hands of Karl Voss craftsmen, these materials spring into new beauty as boxes and kits . . . a beauty of line and detail that has repeatedly proved its ability to create sales and dominate markets. To you who make better merchandise, we offer the skill and experience of this organization in the planning and manufacture of fitting cases and containers.

KARL VOSS CORPORATION

Division of Shoup-Owens, Inc.

HOBOKEN NEW JERSEY

KVC

XUM

CARTONS AND DISPLAY CONTAINERS

WHILE rapid strides have been made in all kinds of packages, the development of the folding carton from an inexpensive and ofttimes cheap-looking container to a real place in the field of self-selling packages is significant. The roll call of manufacturers utilizing folding cartons today is almost as wide as industry itself, varying from the makers of penny goods to those making products costing American consumers five dollars or more, or in terms of the products themselves from absorbent cotton to waffle irons, and from microscopic lenses to the loveliest of cosmetics.

The advantages claimed for folding cartons are:

1. Minimum of original package costs.
2. Ease of handling and shipping.
3. Economy of storage space and warehousing expense.
4. Suitability for large or small production, and manual or machine-filling operations.
5. Ready adaptability to a large number of products, varying widely in size, shape, weight and general characteristics.
6. Ability to build added value into a product, in the consumer's eyes, through giving it better appearance, increased interest, larger size and greater convenience.
7. Giving a line of products a definite family resemblance, thus enabling the "leader" to carry the lesser known products to a point of acceptance and purchase.
8. Ready accessibility, so that the consumer may examine the product before purchasing.
9. Ideally meets the requirements of retailers from an identification, inventory, storage and display standpoint.
10. Possessing to a high degree the ability to catch the eye of the consumer in a store, encouraging her to stop, examine and finally sell herself, without the aid of the clerk, as a direct result of the carton's selling message.
11. Susceptible to reproduction of almost any kind of a decorative design, from plain type printing on plain white or colored board, to multicolor process printing or lithographing.
12. Assurance that the product will reach the consumer's hands in the same attractive manner in which it left the manufacturer.

During the period in which folding cartons were viewed only as containers, they were made from inexpensive folding boxboards, such as chip, single manila and bleach manila, with either a chip or news back. However, during the past few years, when it became a generally accepted fact that cartons could be made so attractive that they would act as salesmen for the products they contained, greater attention was centered on the appearance of the cartons, with a corresponding demand for higher grade and whiter, smoother boxboards—hence the wide use at present of patent and clay coated folding boxboards.

The two types or styles of folding cartons most widely used are:

1. Seal (glued) end cartons
2. Reverse tuck end cartons

The seal end carton requires an adhesive for sealing, while the closing of the tuck end carton is readily done by simply tucking in the flaps. Both of these operations may be done manually, but for normal or large scale production it is a distinct economy to employ automatic equipment.

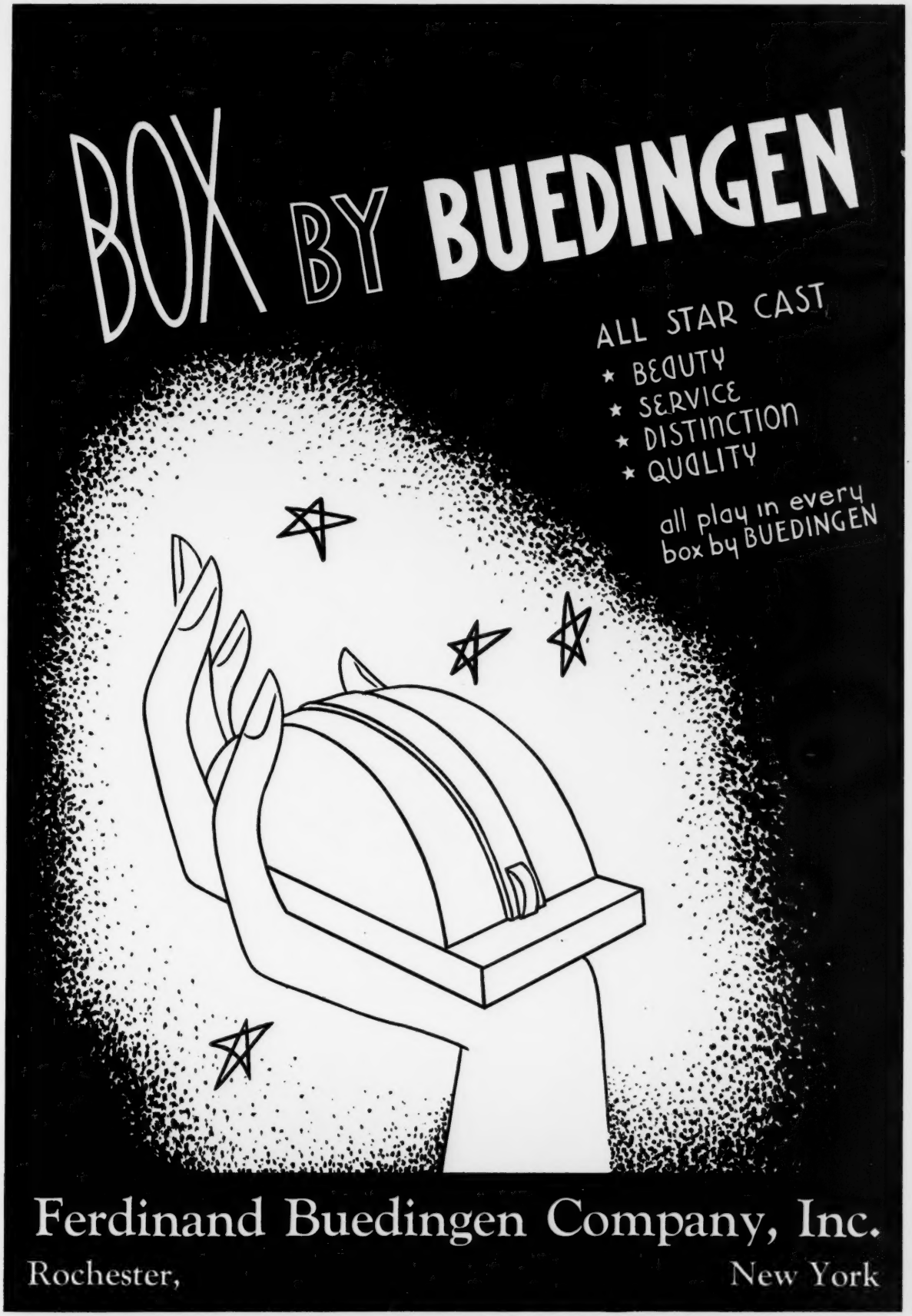
The use of tuck cartons permits a wide latitude as to the variety of products packaged. Some idea of this diversity may be gleaned from a reading of the article "Methods of Assembly in Cartoning Machines" on page 364, although this lists but a few of the products and pertains mainly to the application of some of the newer types of cartoning machines.

In addition to the placing of products in tuck cartons, some mention may be made here of other accessories that are included in the assembly of such a package, and for which due allowances must be made when the carton is planned. It is often advisable when a bottle is used as the inside container for the cartoned product, to supply a wrapper of single corrugated board or some other material which is usually placed around the bottle in the cartoning operation and thus serves to protect it. Similarly, a frequent use of package inserts is made, the most common as included in the carton being the over-end insert, collar label and inner-carton insert. Descriptions and illustrations of these will be found in the article "Package Inserts" on page 266.

While the seal end and tuck end cartons are the most important styles, a study of the section devoted to "Specifications—Folding Cartons and Display Containers" will readily show the wide diversity of available types. Not every type is made by any one carton manufacturer, although none is such that it could not be made if it were not for patents that reserve their use to the patentees.

The use of surface varnishes and lacquers on cartons has gained rapid and wide acceptance because by so doing three important objectives are more readily reached:

1. Keeping the product clean, fresh and attractive until it reaches the hands of the ultimate consumer.
2. Giving the color design additional brilliance and increased visibility, so that it will be more readily seen and bought.


BOX BY BUEDINGEN
ALL STAR CAST
★ BEAUTY
★ SERVICE
★ DISTINCTION
★ QUALITY
all play in every box by BUEDINGEN
Ferdinand Buedingen Company, Inc.
Rochester, New York

3. Securing the cooperation of retailers in placing the products out on open display where sales are speeded up.

The least expensive form is known as "press" varnishing, the process consisting of an additional press run, the varnish being applied by the printing plates, or when it is desirable to varnish the entire surface it is customary to use special flat plates. "Spray" varnishing is an improved form, wherein the carton surface is completely coated, the advantage being that this gives a high lustre, without imparting a yellowish caste to the white surfaces. The highest development in coated surfaces is gained by the use of lacquers, which are resistant to water and alcohol, greaseproof, will not mar or scratch easily and are free from any color in the surface film.

The many advantages to be gained through the use of surface coatings more than offset their slight additional costs over unfinished printed surfaces.

The modern folding paper carton manufacturing plant is one which requires a heavy investment in equipment, and is usually well staffed with various departments that enable the company to offer the manufacturer a complete service. Advice on the use of various types of folding boxboards, in the correct weight, the making of hand-cut blank dummies for experimental purposes, and the development of carton designs are all services which are available without cost to the manufacturer from the modern carton companies.

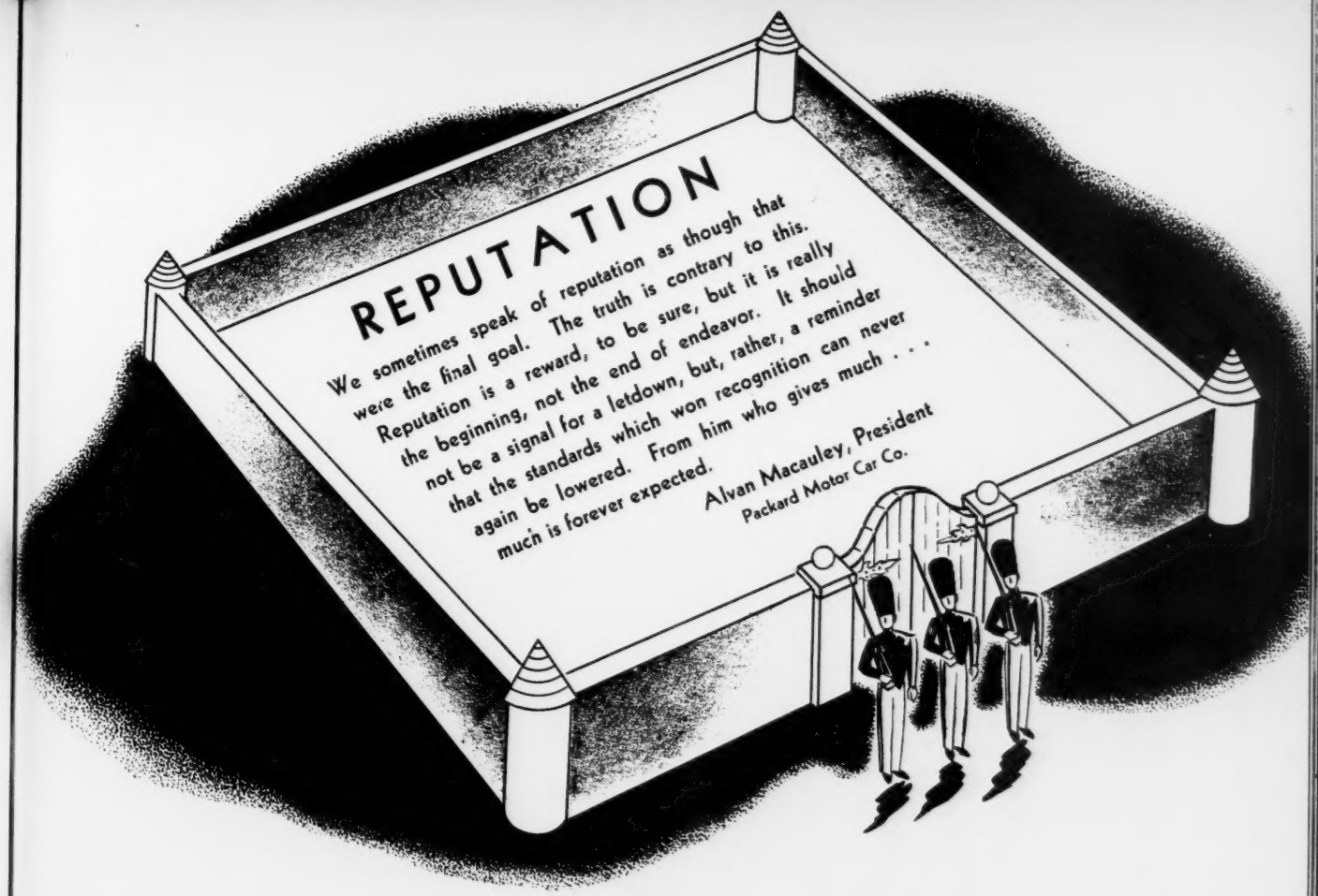
Metal Edge Boxes

Illustrated below is a group of reinforced boxes and displays. In these types, use is made of metal reinforcing strips which are placed on the edges of the boxes in such a way as to serve not only as a stay for the boxes but to impart a rigidity to them that is unequalled in the paper box field. In assembled form, many of these boxes could well be considered as classifying in the set-up box group, as contrasted with folding cartons. But, due to the fact that they are generally supplied to the user in knock-down form and are assembled by the latter, they fall strictly within the classification of folding boxes and are usually designated as such. The printed blanks, cut and scored, after folding are applied to a special device which affixes the metal bands or straps and thus completes the box or display. Some idea of the diversity of types which are possible may be obtained by a study of those illustrated, although these are but a few of the many that are available. Extra heavy board is used in their construction as this not only gives additional strength but also allows for a satisfactory "holding" of the metal strip. Once inserted, the latter cannot be removed without a complete destruction of the box.



Reinforced (Metal Edge) boxes and displays of various types. Top row, left to right: One-piece hinged lid lock sampler; one-piece triple lock; factory-sealed self-service dispenser; double-wall box, also permits display. Lower row: One-piece hinge lid; two-piece display box; two-piece telescope. Among other types (not shown) are retail delivery and millinery boxes

XUM



WE GUARD OUR REPUTATION

The high repute of our firm, among users of fine set-up paper boxes, has been maintained through the years only because we have made our performances live up to our promises. To make this possible, we have had to invest large sums in keeping our plant and machinery at the highest possible level . . . large sums in maintaining an able and ably trained working staff, in maintaining a designing and laboratory staff second to none in the field.

Creators and Makers of Fancy Set-up Paper Boxes

Today, when you call in a Waterbury sales representative, you will find him backed up by the concentrated experience, skill and ability of this large group of workers of hand and brain . . . able to make you promises and to deliver on them to the fullest extent.

We invite you to utilize our designing services in planning your next package. Call upon us for aid, advice or information without obligation. Write, wire or phone.

THE WATERBURY PAPER BOX COMPANY

WATERBURY, CONNECTICUT

NEW YORK CITY OFFICE · Robert E. Crotty, Manager · 30 Rockefeller Plaza

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RIGID TRANSPARENT CONTAINERS

by D. S. HOPPING

THE DEVELOPMENT of what may easily become a landslide of transparent packaging started several years ago with just a few pioneers and in a small way. Here and there a package designer would give his imagination free reign, and design a beautiful, lustrous, ultra-modern transparent package. Now and again a manufacturer would leave the beaten path and adopt a package that would retain, and even increase the eye and



Items such as safety pins, cocktail picks, powder puffs and marbles in transparent packages win attention and sales on department store counters

sales appeal of the product while completely protecting it in a gleaming, rigid, transparent container. But even after these hardy pioneers had conceived their ideas and had decided to try this new method of packaging, they were confronted with many problems of mechanical design and production. Today department store executives, chain store merchandise managers, and sales executives of all types are becoming intensely interested from two angles: first, for displays or silent salesmen; and second, for product packaging. Package designers, realizing the possibilities of this new type of packaging, are designing more ambitiously and with greater imagination in both of these fields.

For the more expensive articles in the exclusive shops and department stores that set the vogue, lustrous, fully transparent private show cases are being used for many items. Hat boxes, for example, have suddenly appeared in Saks Fifth Avenue and in leading department and millinery stores all over the country. These hat boxes serve three purposes. They are used for display purposes, to package ladies' hats that sell for $15 or up, and are also sold separately so that "milady" can quickly find the hat she wants without opening and fumbling through several hat boxes.

It is impossible to list all of the other items which have already turned to transparent private show cases, or for which transparent containers are being developed and designed. A few, however, are shoes, gloves, handbags, stockings, handkerchiefs and recently one department store sales manager inquired about a transparent container large enough for expensive wool blankets. Even a quality brand of scatter rugs will be packaged in a rigid transparent container.

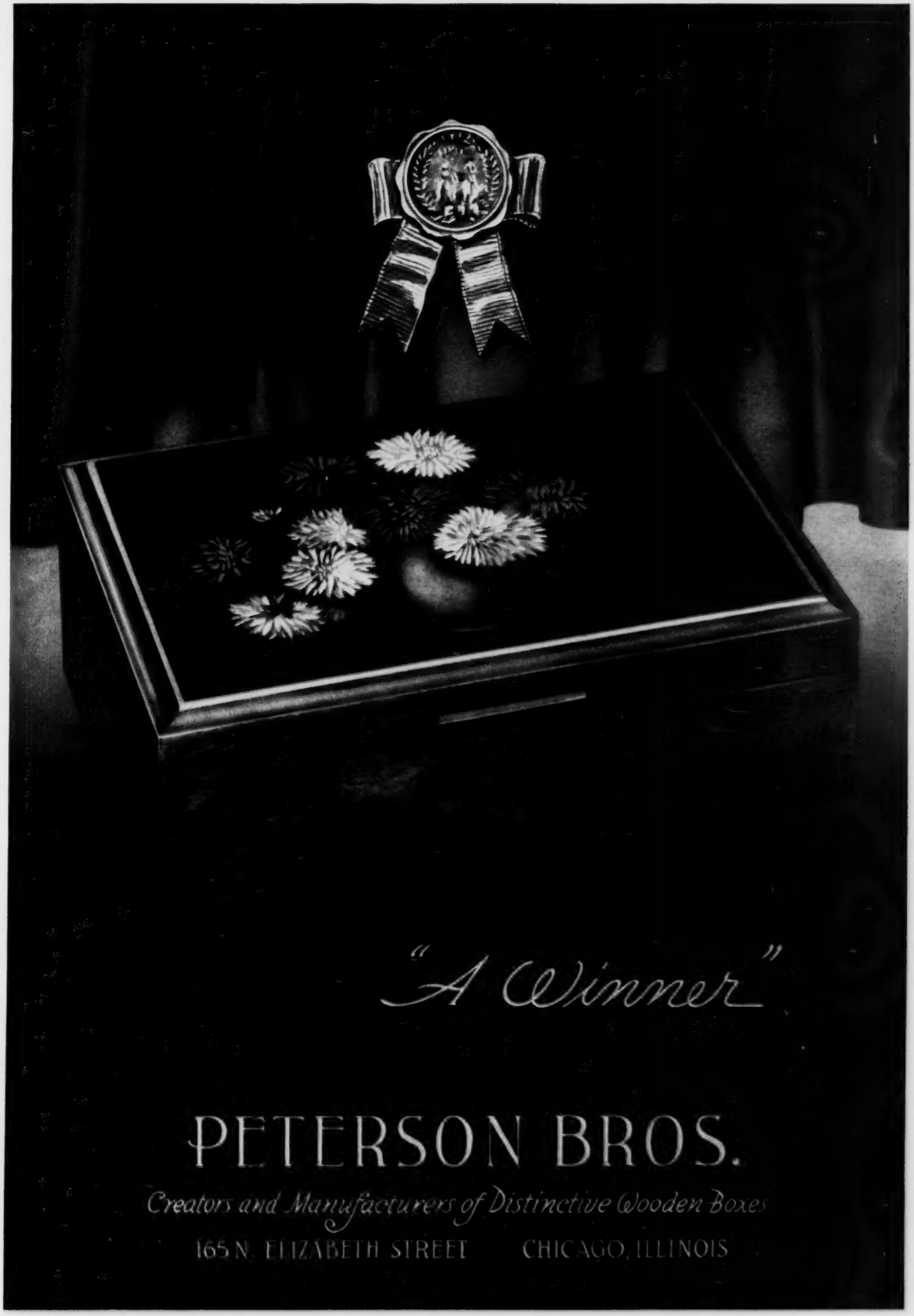
There are many items that have eye appeal but that must be completely protected and kept clean and sanitary if the eye appeal is to develop into sales appeal. Among such items are powder puffs, cocktail picks, toothbrushes, hair brushes and many similar items, as well as medical or surgical accessories. To this class of products, rigid transparent containers have much to offer. The prospect is first attracted by the color or form of the article itself. Then his judgment confirms the eye appeal because he realizes that the articles are kept completely clean and sanitary, safe from dust and handling, by the lustrous transparent packaging.

Foremost in the food industry to turn to rigid transparent containers have been the bakery and confectionery trades. For over a year a Chicago firm has been packaging an attractive assortment of cookies in a 6 in. round, rigid transparent box. Now fruit cakes and other bakery products are appearing in full view, but completely protected by their rigid transparent boxes. Wrapped hard candies, toffee and even chocolates are finding new sales appeal in this new dress.

The popularity of "re-use" containers has, of course,



Private show cases for artificial flowers and hand-bags are created when transparent containers are used


"A Winner"
PETERSON BROS.
Creators and Manufacturers of Distinctive Wooden Boxes
165 N. ELIZABETH STREET CHICAGO, ILLINOIS

been steadily increasing for some time past. Rigid transparent packaging readily lends itself to this development. Transparent powder puff boxes are used for cigarettes on the bridge table. Other rigid transparent containers are handy for buttons, hooks and eyes, sewing equipment and many other items around the home. Almost any woman can imagine a dozen uses for these attractive containers. Sometimes the package is particularly designed for its re-use, and at times the re-use becomes more important than its original job. Fish lines, for example, can be packaged in rigid transparent containers which later make ideal "leader" boxes that fit conveniently into the fisherman's pocket. Here the re-use value may sometimes sell the line. A gleaming, rigid, transparent steamer basket was designed and when finished, its re-use value as a lady's hat box became far more important, and developed far more appeal than the objective for which it was originally planned.

CELLULOSE DERIVATIVE CONTAINERS

by HERMAN B. LERMER

THE CELLULOSE DERIVATIVE CONTAINER has definitely established itself as an important factor in the packaging field. Numerous new markets are continually being opened because the cellulose derivative container combines the advantages which manufacturers are looking for today.

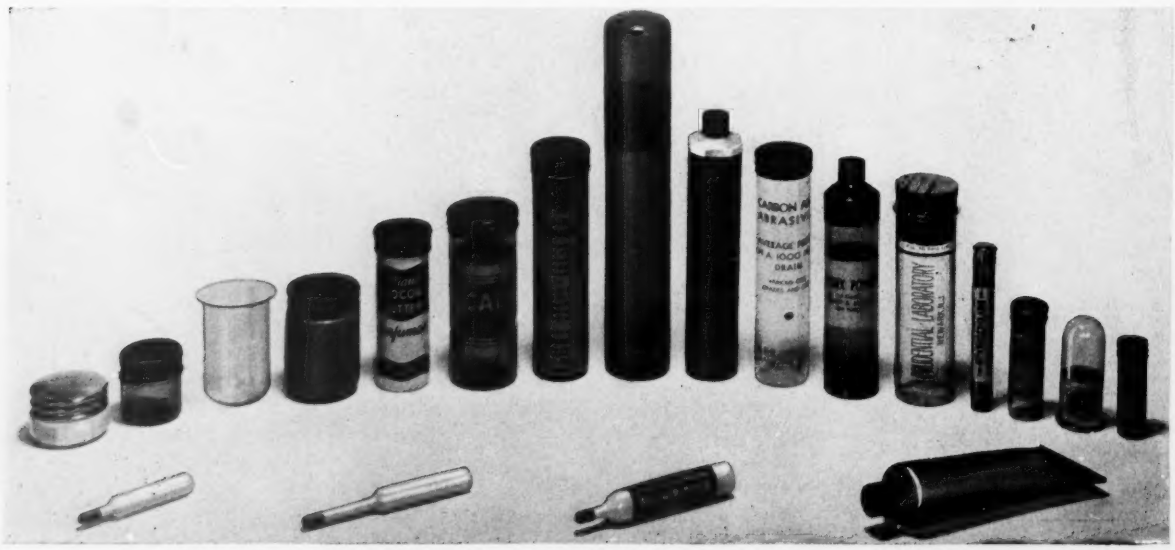
There is real sales appeal because of the inherent qualities of the cellulose container. It is made in practically a limitless range of colors and shades; in clear or colored transparent as well as colorful opaques. The wide range of choice is not limited to color. The container is manufactured in a variety of different forms such as jars, vials, bottles, collapsible tubes, capsules, atomizers for liquids and powders and specialties.

The "labeled when made" cellulose container offers distinction and appeal not available heretofore. The "labeled when made" process permits the label-design to become an integral part of the package, thereby permanently fixing the label on the package.

Elimination of breakage is another distinctive advantage of the cellulose container. Because of its resiliency, it resists damage and breakage. Large annual losses are reduced to a minimum by its use. While the cellulose container is of substantial construction, yet it is not bulky and is far lighter than any other container, which greatly affects shipping costs. Advantageous savings are made because of the exceedingly light weight.

Manufacturers are realizing, more than ever before, that a distinctive container has the appeal required to put the final touch to a sale. The cellulose container possesses this appeal, offering as it does, novelty, color, resistance to damage, light weight, distinctive label and lustre, which makes its use most efficient and desirable for the packaging of a wide range of products.

These containers are produced according to specification, making it possible to embody special requirements of each manufacturer, and have solved problems which were considered necessary evils. Each year finds new uses, and wider needs for the cellulose container are to be expected.



Types of seamless cellulose containers. Illustration, courtesy of Hygenic Tube and Container Company



THE MOST SENSATIONAL PACKAGE IN PIONEER'S SENSATIONAL LINE *is made by* WEAVER!

Manufacturers of fine leather cases, displays and packages

The Weaver-planned and Weaver-made leather brace and tie kit, used by Pioneer so successfully in this fall's promotion campaign, is typical of the output of this plant. For here, at Mount Holly, we have gathered through the years a group of skilled workmen and trained designers who know both the art of leather working and the fine art of package planning. Combined, this knowledge spells better packages, better sales and lower costs for you. Call upon us, without obligation, for aid, advice or information in regard to your new packages.

WEAVER MANUFACTURING COMPANY

Mount Holly ::: *New Jersey*

CYLINDRICAL, CONICAL AND RECTANGULAR PAPER CONTAINERS

ORGANIZED RESISTANCE, activated by the urge of old habits, has proved a serious handicap, for better than three-quarters of the past twenty years, to the wide acceptance and use of paper containers for packaging milk, buttermilk and cream. In the past few years, however, the paper milk container has come into its own, as evidenced by the fact that one company alone in 1936 produced and sold more than fifty million, and it is conservatively estimated that the total of all manufacturers for that year was well in excess of one hundred and fifty million paper packages. Further evidence of their acceptance is found in the fact that one manufacturer of paper milk bottles sold forty-two, of his total production of sixty-five, million packages in New York City alone.



From the dairyman's viewpoint the chief advantages of the paper versus the glass milk bottle are that there are no "empties" to pick up, bring back, inspect, wash, sterilize and stock. Their use eliminates bulk, weight, breakage and waste. One manufacturer reports that whereas a quart of milk in glass weighs 59 oz., the same quantity in paper weighs only 35 oz., that a truck with a capacity of 1200 qts. in glass can carry 3000 qts. in paper, that 12 qts. of milk in glass and iced weigh 76 lbs., whereas in the paper container they weigh only 28 lbs. From the retail store operator's viewpoint paper milk bottles eliminate the worry and expense of bottle deposits and refunds, breakage and handling. And the consumer is assured: a properly sterilized container; one that is air-tight and free from contamination and tampering; a clean, fresh and attractive container that is used but once and then discarded.

The illustrations show several types available, most of which are supplied to the dairy in flat blanks and then with the special leased machines are formed and set-up, completely paraffined, cooled, filled and sealed in one continuous operation. They are capable of being printed in any color, or combination of colors, and their larger and larger use is attested to by the experiences of the past few years. While higher in original cost—as compared to a glass bottle—it can be proved that they actually are more economical to use under certain conditions because of fewer operations involved and material savings effected in handling.

But while the use of these paper containers has resulted in large quantities of them replacing glass milk bottles, there is a wide variety of uses which, in the aggregate, stand well to surpass liquid milk packaging. For consider the following list of products which are marketed in these paper containers: Sweet and sour cream, chocolate milk, ice cream and sherbets, orange and other

Pavesco Tapered, American Can and Pure Pak Paper containers shown at upper left; Kleen Kups, Nestrites and Purity round containers at lower left; and Sealcone paper bottles in photograph below



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The SALES SPOTLIGHT *Falls Squarely on* CUSTOM MADE EUREKA BOXES

Better made . . . and with sound, merchandising ideas behind them . . . Eureka boxes have a proven ability to attract the eye, arouse the interest and *make* the sale. In large or small quantities, you will find our product a fitting counterpart for your own. As for cooperation . . . in development, design . . . and delivery . . . you'll find us living up to your highest hopes. We invite your inquiries and offer our aid in planning your next package. Write, without obligation, to—

EUREKA PAPER BOX CORP.

811 REES STREET CHICAGO, ILL.

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Quart Reed milk bottle, together with plain, wire and cord handled Home Packits, made in sizes varying from 5 ounces to 1 quart

fruit juices, cottage and cream cheese, cheese spreads, sausage meat, scrapple, chili con carne, lard, oysters, clams, shrimp, lobster, baked beans, pickles, salads, cole slaw, relishes, peanut butter, honey, marshmallow creme, candied fruits, jams, jellies and preserves, frozen fruits and vegetables. Among the powdered substances utilizing these paper packages are: chemical compounds, cake flour, chocolate and other dessert powders and grated cheese.

The simplicity of discarding the paper package after use makes it ideal for:

1. Retail stores, such as grocers, delicatessens and drug stores.
2. Transient motorists and picnickers.
3. Industrial plants.
4. Quarantined homes.
5. Bus and railroad patrons.
6. Airports and airplane refreshment baskets.
7. Restaurants, luncheonettes, schools and offices.
8. At fairs, carnivals, circuses, sporting events, bathing beaches, playgrounds.

Paper packages shown are made by the following manufacturers: American Can Company, rectangular milk bottle containers; American Sealcone Corporation, "Sealcones"; Ex-Cell-O Aircraft & Tool Corp., "Pure-Pak" containers; Lily Tulip Cup Corp., "Nestrites"; The Menasha Products Co., "Home Packits"; Mono Service Company, "Kleen Kup" and "E.Z. Tearstrip" containers; Purity Paper Vessels Company, Purity Paper Cans and "Pavesco" milk bottles; The Reed Company, Inc., Reed containers (milk bottles); Sealright Company, Inc., Sealright food containers.

MOLDED PULP CONTAINERS

by ROY SHELDON

MOLDED PAPER pulp containers can be produced in a single nearly automatic operation. Such packages can be in almost any conceivable shape; they are light in weight, water-proof, seamless, accurate in content and astonishingly strong. These packages can have any copy or design embossed or debossed on any surface without increasing their cost.

Secondary operations are easily performed and include finishing either in dyes or lacquers and the application of labels and closures. Boxes with telescope covers are molded in one piece and the cover cut apart. The process is so accurate that the fit of covers can be made tight, snug or loose as desired.

The closure problem has a number of easy and standard solutions. The simplest is to use a slip cover of molded pulp, blown integral with the body of the package and later separated by a saw cut. Metal slip covers are satisfactory because the molded pulp tolerances in the new and improved manufacturing process are very low. This fact makes possible also a metal screw cap fitting tightly over screw threads molded in the container and hardened. A paper board disc can be glued into a pre-formed seat in the molded container when desirable for identification or any similar purpose.

The standard plain tin top forms a tight joint when applied over a bead molded around the top edge of the container. The tin ring and friction plug are easily applied or the tin plug can be used alone, fitting directly to the pulp. For liquids in bottles, a cork sealed with a viscose cap forms a perfect closure; milk bottles utilize standard formed paper closures with a protective lip; and lubricating oil bottles employ a special metal cap which must be cut or torn off, thus making the bottle tamper-proof and eliminating bootlegging.

So much for the technical background of these new packages. What are their appearance, feel, advantages and limitations? What of quantities, costs and logical uses of molded pulp in this field?

We all know the molded pulp containers for White Horse and Haig & Haig whiskey. The American containers, such as the Dobbs hat box and the Seagram Pedigree Book here illustrated, are made by the same process and are more highly finished.

Qualities of Paper Pulp

All molded pulp objects have the same surface quality being slightly rough with countless tiny points of paper but pleasant to the hand. The natural pulp is clean and fresh in appearance with a standard white, cream, buff or gray color. The peculiar qualities of paper



Each One a SALESMAN

at the place where sales are made!

NO LONGER is a package a mere container! It must do double duty — it must sell as well as "contain." It must speak to customers from your dealers' shelves and counters. What your package says, and how convincingly it speaks, depends, first of all, on the basic design. Secondly, it depends on the accurate printed reproduction of that design! . . . In Guilford's well-equipped plant not one single order is regarded as a mere printing job—but as the production of a package that has a job of two-fisted selling to do. That's why a list of Guilford customers reads like a "who's who" in the world of fast-selling merchandise. . . Do you have a package problem? Write us—we'll be glad to help you all we can.

• GUILFORD • FOLDING BOX CO.

BALTIMORE, MARYLAND

pulp enables these containers to stand rough usage and serve admirably as protective packages. A brief inspection of the liquor containers will prove that they have withstood the trip across the ocean and arrive on the dealers shelves in excellent condition. Their distinctive shape and effectiveness as consumer cartons and display packages constitute additional values. Another field of great importance is the utilization of novelty shapes in the form of toys, baskets and decorative boxes for reuse containers.

Molded pulp can also be impregnated with a low cost material which makes it very hard and strong but far less breakable than porcelain or plastics.

Before discussing costs and limitations of molded pulp packages, a word concerning how they are formed.



Some of the innovations in molded pulp packages. The Dobbs hat box is distinguished in appearance, lettering and crest having an embossed appearance. Seagrams' Pedigree "book" has a lift-off cover which discloses the distinctive bottle inside, while the Planters' Peanut is giant size and serves for display purposes

They are not pressed or shaped by any sort of plunger and die but more accurately "blown" in the interior of a mold. This mold consists of a metal shell full of holes and lines on the inside with a fine metal screen. When this double mold is closed, the exact amount of pulp is introduced automatically in water solution. The water is then driven by pressure through the mold leaving the pulp evenly compacted inside the metal screen. The mold opens and the complete pulp object drops on a conveyor belt and passes into the dryer. After being dried, the blown container is waterproof without further treatment. By introducing a dye into the pulp beater, the object can have any color uniform throughout its entire substance.

The molds for such production are expensive, ranging from around $200 for small and simple shapes to $1000 for large packages, novelty containers and display containers where full advantage is taken of the possibilities of complicated shapes and decoration. Names can be changed once the mold has been made, at a cost of $50, by changing the screen. Production from a single unit ranges up to several thousand articles a day, depending on the size of the object, and as many cavities can be operated as desired.

Process Ideal for Volume Delivery

From these indications of mold costs and production norms, it is immediately clear that the molded pulp process is ideally adapted to volume delivery. Ten thousand units is the minimum run for which it is worth the cost of making a mold, and as the quantities rise to 25,000, 50,000, 100,000 units and upwards the most economical results are achieved. Standard shapes for which molds exist make possible smaller quantities and as molds accumulate in time distribution of smaller than 10,000 quantities may be made available. An additional facility in this regard is the fact that a portion of a mold may be blocked off, thus enabling the production of two different depths from the same mold in the process used for manufacturing.

Sixty days are required to make a mold and begin production. Maximum size that can be molded today is 28 in. × 13 in. × 15 in. Standard containers and industrial objects are manufactured by Pulp Products Company Inc., National Folding Box Company, Keyes Fibre Company, Inc., and Owens-Illinois Glass Company. Advertising media, displays, novelty packages, toys, premiums, radio cases and specialties are handled by Moulded Displays, Inc.



See-Thru
CONTAINERS

the pioneer in rigid transparent containers still leads the field

See-Thru opened up this field when no others would touch it for fear of the difficulties involved. See-Thru developed dozens of successful innovations in transparent containers. See-Thru today controls more designs, ideas, devices in this field than any other firm. Makes more transparent containers than any other firm. Offers more advantageous working facilities and cooperation than any other firm. The leader is still the LEADER . . . and the name is

SEE-THRU CONTAINER CORPORATION

22-20 40TH AVENUE LONG ISLAND CITY, N. Y.

XUM

LEATHER AND FABRIC COVERED BOXES

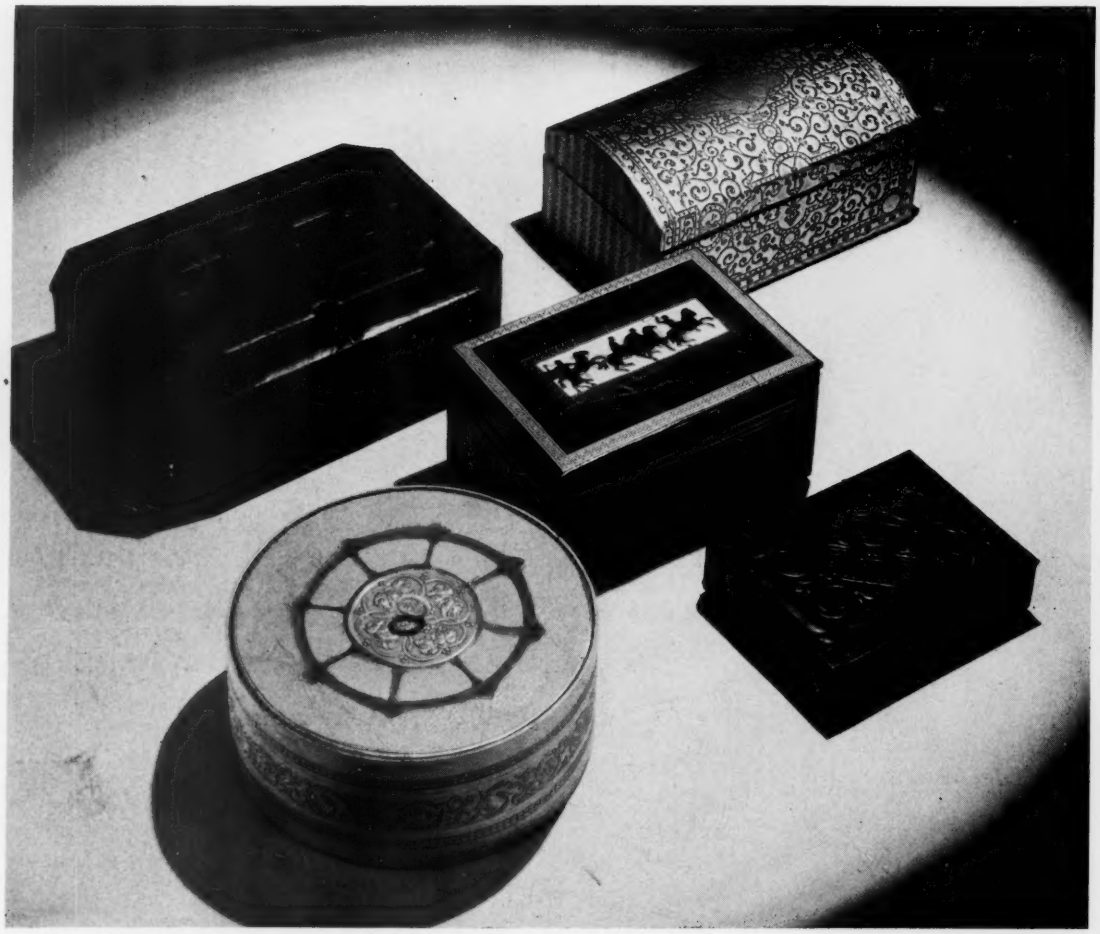
LEATHER, real or simulated, and fabric covered boxes, while not in as general use as paper covered boxes, have certain unusual advantages which not only recommend them for special gift or holiday packing but also permit design for general use where a package must combine structural strength, unusually good appearance and a high percentage of utility at slightly more cost than the usual paper covered box.

A wide range of effects such as reproductions of old antique tooled leather, modern leather work or bronze and brass jewel cases, together with simulations of wood, metal or plastics. Then again by the use of masks, color is sprayed onto any desired surface, so that design trademarks, product names and other features can be included without much additional cost.

It is also possible to procure a relief embossing around the sides of the container as well as on the cover at little additional cost. This feature serves to place this package in the ultra-exclusive class, without an excessive price premium. The extreme flexibility of fabrication involving as it does no mold or die charges, permits their use on small initial orders to gauge a market. When large quantities are involved with special design the embossing die charge will be relatively small per box.

The foundation of this package may be had either with a special fibreboard carcass or wood, but in most cases, fibreboard of wood thickness is usually employed, and due to methods of construction, a package 22 × 14 × 10 in. can be produced for trans-country shipments of 25 lbs. total weight.

Their use at the present time includes the following industries: Cosmetic, liquor, baked goods, candy, stationery, hair brushes, novelties, hosiery, etc., and this list is increasing rapidly.



Covered with simulated leather in decorative effects, these boxes are applicable to a wide range of purposes. Courtesy S. K. Smith Company

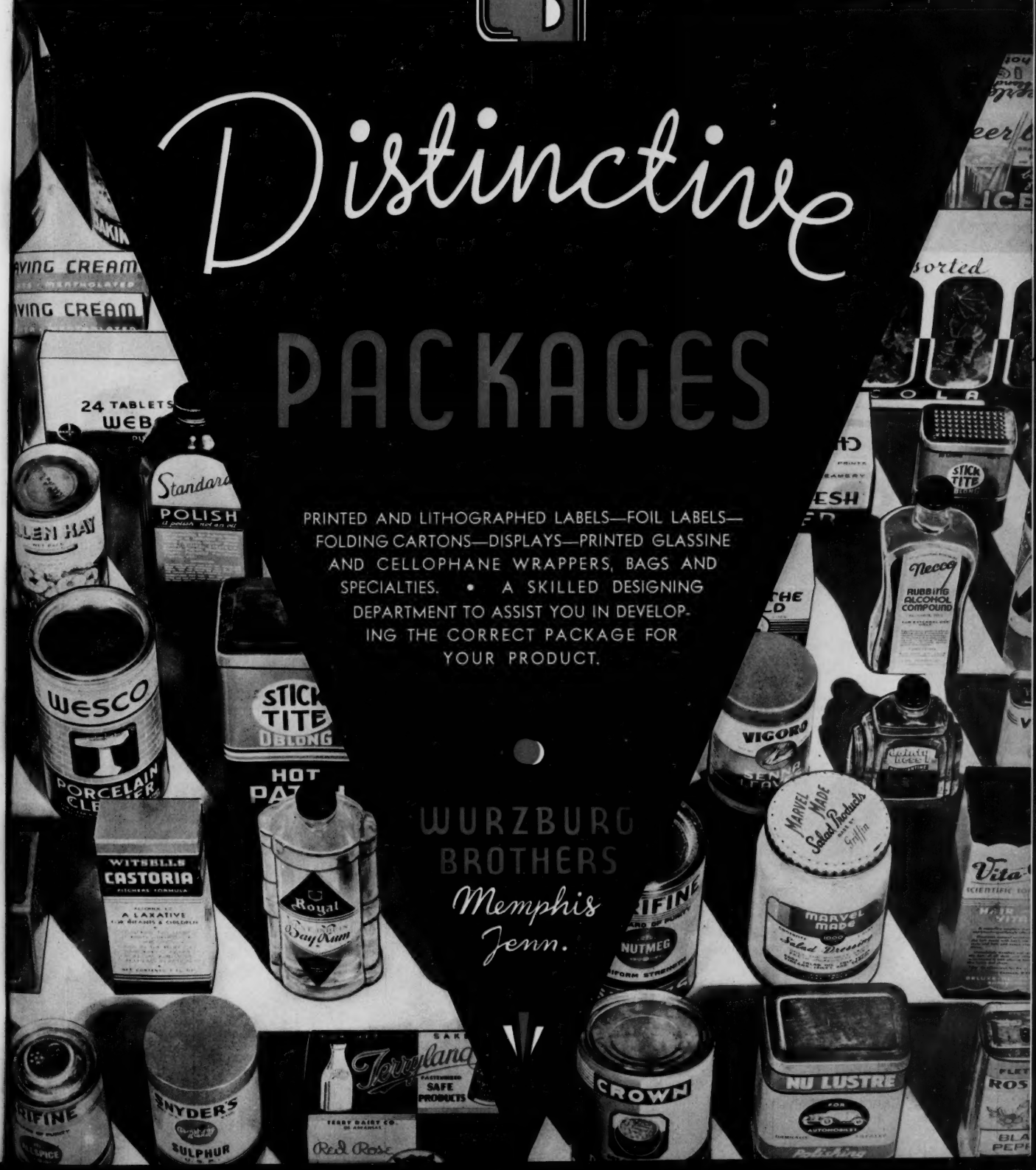
DESIGNERS SUPPLIERS

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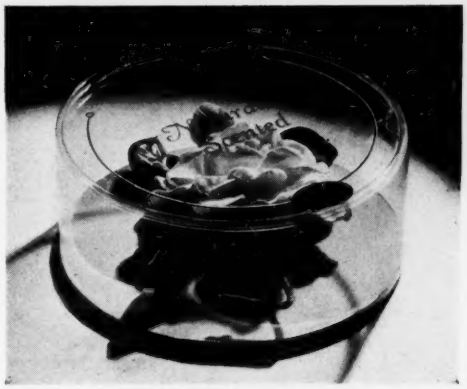
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PRINTED AND LITHOGRAPHED LABELS—FOIL LABELS—FOLDING CARTONS—DISPLAYS—PRINTED GLASSINE AND CELLOPHANE WRAPPERS, BAGS AND SPECIALTIES. • A SKILLED DESIGNING DEPARTMENT TO ASSIST YOU IN DEVELOPING THE CORRECT PACKAGE FOR YOUR PRODUCT.

WURZBURG BROTHERS
Memphis Tenn.



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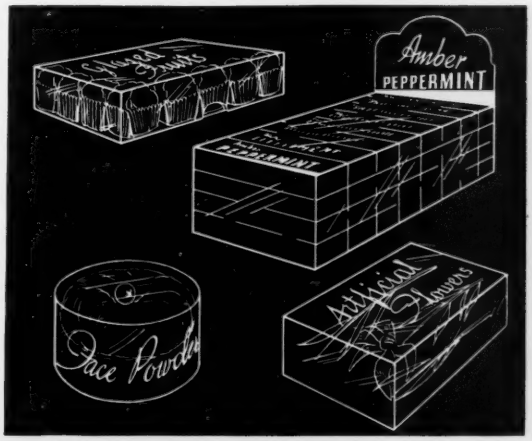


TRANSPARENT CONTAINERS *by* EMELOID

THESE INDIVIDUAL SHOWCASES are increasing sales for many products, including these:

Artificial flowers	Narrow ribbons	Cutlery box covers
Chewing Gum	Dried Rose and lilac	Golf balls
Glace fruits	Easter eggs	Balloons
Powder puffs	Nuts and candy	Penny merchandise, etc.

Combine the sturdiness of a box with the sales advantages of transparent wrappings. People want to see the products they buy nowadays. Show them! —in Emeloid Transparent Containers. They provide complete visibility along with protection from dust, moisture and air. Send us your package problem—no obligation, of course.





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Celluloid and metal novelties, fashioned by Emeloid, are today being used by many of America's most successful advertisers. Because of their utility, beauty and almost endless variety Emeloid specialties are practically "made to order" for any type of business, no matter "how different" that business may be.

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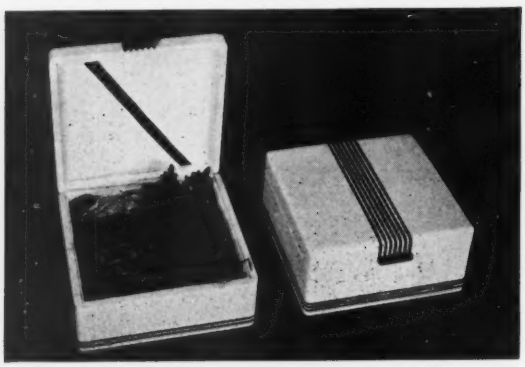
XUM

FANCY WOODEN BOXES

by E. H. BERGIN

THE DESIGNING and manufacturing of a wooden box for the merchandising of a specific product is no longer confined to simple rules of box making. Today, there is a definite understanding of all involved principles, with the result that wooden boxes have found a prominent place in the field of packaging. A more thorough understanding on the part of advertising agency executives and designers as well as the individual package buyer of the adaptability of wood working plants to the box idea to be created, has resulted in many improvements in the beauty, serviceability and selling achievement of many wooden boxes.

Since all wooden merchandising boxes are made either of all lumber or veneers or a combination of both, the manufacturer's first consideration is the kind of lumber needed for the job. The most widely used are gumwood, poplar, basswood, cedar, mahogany, walnut, maple and redwood. Most of the larger manufacturers buy air dried stock in 4×4 and 5×4 thickness and fabricate it to proper sizes and thickness in their own plants. Drying



Fancy wooden box for fruit cake

of lumber before fabricating is perhaps the most important item of consideration in box making. Large, modern dry kilns with up-to-date testing methods are a part of every modern factory. The process of properly kiln drying lumber for cabinet use is one that requires not only the right kind of equipment but a great deal of skill and experience if desirable results are to be obtained.

High speed machinery with knives and cutters that are kept sharp are necessary to turn out boxes of various shapes and sizes demanded by present day packages. After the sides and ends, top and bottom are cut and the box put together with lock corner or tongue and groove joints which are also glued, the next important step is the sanding operation to prepare the surface of the box for the finishing materials. A box is usually sanded three times before it is ready for the finishing department.

The finishing of a cedar box is a comparatively simple job, providing an excellent grade of shellac and varnish or lacquer is used. After one or two coats of shellac are applied as a sealing coat, each box must be hand sanded to remove the raised grain of the wood and then the varnish or lacquer is applied for the final coat. After these finishing coats, boxes must be kept in a dust proof drying room of the right temperature twelve to fourteen hours.

The application of other finishes, particularly in colors involves more detail. In applying a black lacquer for example, a box must be first given a coat of lacquer sealer over which is applied a heavy body coater called surfacer or undercoater. Between each application of sealer and surfacer a hand sanding operation takes place to provide a smooth surface.

The latest development in finishes as applied to boxes are exact duplications of expensive grained woods such as birdseye maple, ribbon walnut, burl walnut, ripple mahogany and others, by a printing process. For several years automobile manufacturers have used this process on instrument board panels and interior window trim. The process is patented and is applied by special machinery designed for wooden boxes.

Another departure from conservative types of boxes is the beaded effects that are obtained across the top and around the bottom. These beads are cut out of the solid wood and are so perfect that they seem to be moulded and set in place. By the use of color in these beads, plus a small lid lift in front, many pleasing combinations are created. A still newer type of beading has made its appearance this year which is known as coping, and the white box shown in the illustration presents this new effect. Various colors can be wiped into these copes, producing unusual effects as indicated by the black on the white box in the illustration. This particular box is one of many wooden boxes that are being used by the baking trade in which to pack fruit cake.

Interior decorations for wooden boxes vary with the purpose for which they are intended. Rayon silk of a high lustre sheen is mostly used in a cedar box while velveteens, satins, silks, fancy papers and other lining materials are used in the enameled or synthetic grained boxes.

Silverware manufacturers are perhaps the largest users of fancy wooden boxes as merchandising packages for silverware. Such boxes require the finest finishing materials and linings are usually of plush velvet and satin. An industry that is quickly coming to the front in the use of fancy wooden gift boxes is the baking industry which uses them for packing fruit cakes. The re-use value of such boxes after the fruit cake is removed provides the added incentive for consumer acceptance.

SECTION 3

BAGS pages 124–142

PAPER BAGS
TRANSPARENT CELLULOSE BAGS
METAL FOIL BAGS
TEXTILE BAGS
BAG CLOSURES
ENVELOPES AND PACKETS
HEAVY DUTY PAPER BAGS

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PAPER BAGS

by WILLIAM O. ROGERS, JR.

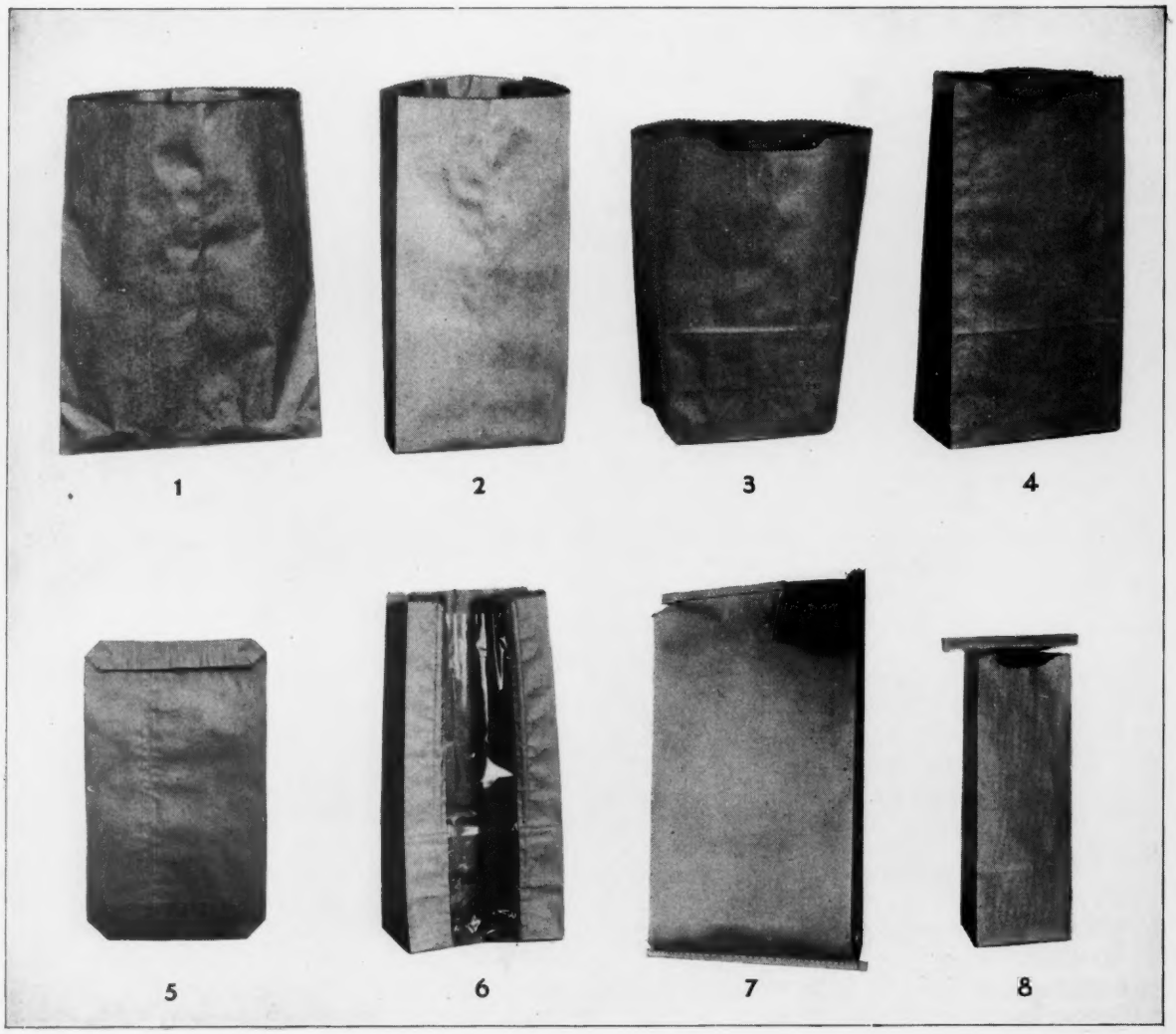
STRANGE as it may seem, there are still packers and shippers who regard the paper bag as a "poke." This is so far from the fact that it is like thinking of an automobile in terms of the one-cylinder buggy-wheeled vehicle of many years ago.

Naturally, like all other containers, the paper bag has certain definite limitations but its fields of usefulness are many and the purpose of this article is to attempt to point out some of those fields and some of the limitations as well. There are seven advantages which, alone or in combination, give the paper bag its place in the packaging field. These are listed below:

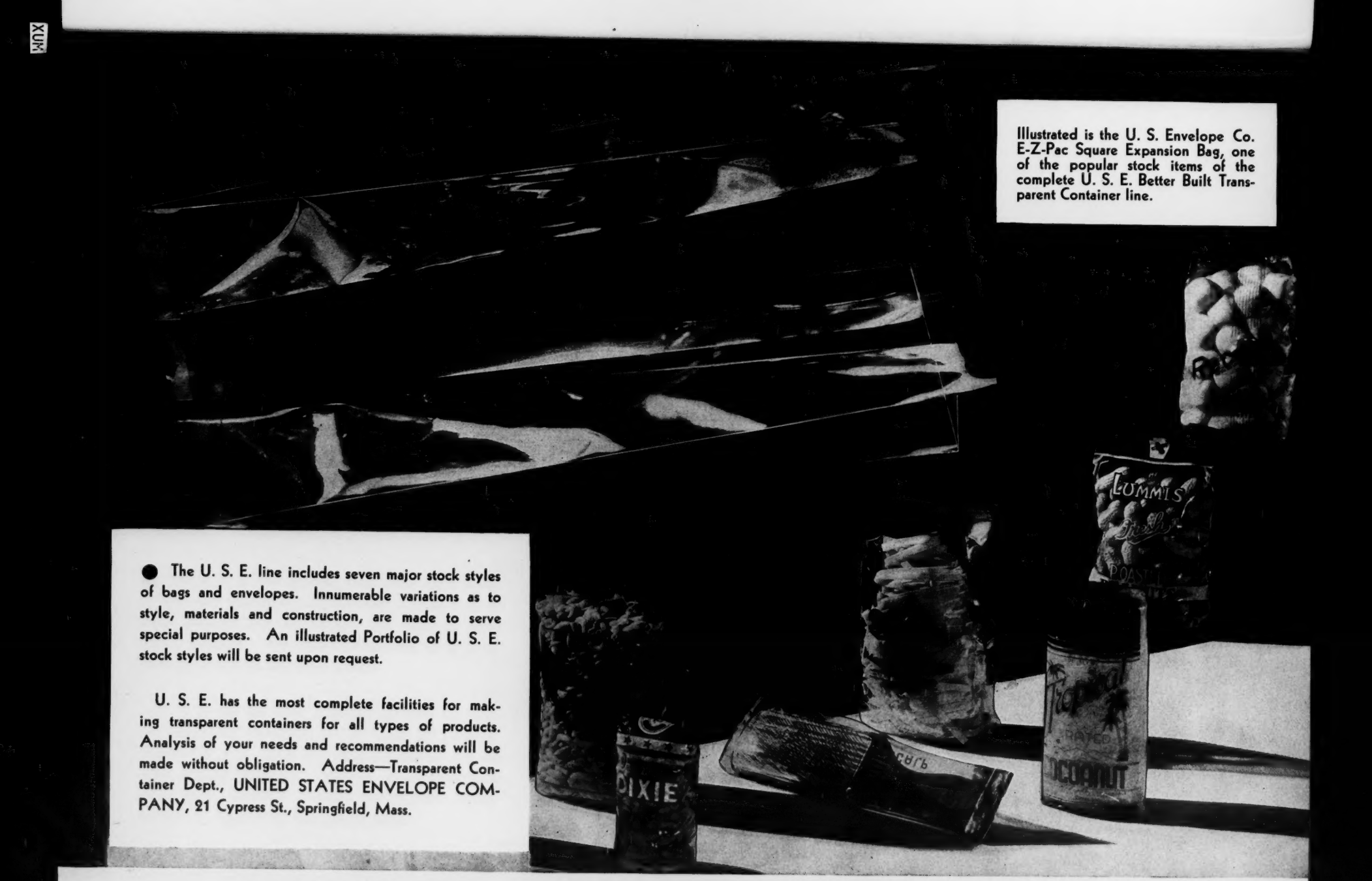
1. Economy
2. Protection
3. Identification
4. Unit of Measure
5. Liners
6. Display Package
7. Shipping Unit

Here are some typical examples of the application of paper bags to these fields of usefulness:

Economy: Early in 1935 a prominent coffee roaster changed from a relatively expensive container to a less



General styles of paper bags. 1. Flat bag with straight plain bottom. 2. Square bag opened with bottom formed. 3. Satchel bottom bag. 4. Automatic shape bag. 5. Valve bag, pasted top and bottom. 6. Combined bag, automatic shape. Transparent cellulose and kraft. 7. Valve bag sewn top and bottom. 8. Automatic shape with tin-tie closure



Illustrated is the U. S. Envelope Co. E-Z-Pac Square Expansion Bag, one of the popular stock items of the complete U. S. E. Better Built Transparent Container line.

● The U. S. E. line includes seven major stock styles of bags and envelopes. Innumerable variations as to style, materials and construction, are made to serve special purposes. An illustrated Portfolio of U. S. E. stock styles will be sent upon request.

U. S. E. has the most complete facilities for making transparent containers for all types of products. Analysis of your needs and recommendations will be made without obligation. Address—Transparent Container Dept., UNITED STATES ENVELOPE COMPANY, 21 Cypress St., Springfield, Mass.

★ *Other U. S. E. Transparent Container styles include*—DIE CUT •• PAC-KET •• VIEW-PAC
DISPLAY-PAC •• E-Z-PAC FLAT •• E-Z-PAC SATCHEL BOTTOM ★


Packages
by
ROYA



AL

THOMAS M ROYAL & CO

PHILADELPHIA U S A

NEW YORK CHICAGO DETROIT PITTSBURGH BOSTON ST. LOUIS MINNEAPOLIS
SAN FRANCISCO DAYTON SYRACUSE FORT WORTH ATLANTA HOUSTON

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expensive, attractive and efficient paper bag. By doing this, the coffee roaster was able to reduce the price of his coffee to the consumer, and increase his market.

Protection: A manufacturer of paint brushes uses an attractively printed paper bag to protect the bristles of his brushes against damage in shipment. Many manufacturers of shirts and underwear use paper bags for the same purpose. Where protection from dust, soilage and handling is important, the paper bag offers an economical and efficient solution.

Identification: In order to protect themselves from the activities of "bootleg" parts manufacturers and to make sure that dealers and car owners get genuine factory replacement parts, the larger automobile manufacturers are using paper bags to identify parts not easily stamped or trade-marked.

Unit of Measure: Often it is desirable that the ultimate users of the product receive a pre-measured quantity. A common example of this is in the case of coffee urns and other coffee-making devices, where a uniformly good cup of coffee can best be obtained by using the same predetermined quantity of ground coffee for each batch.

Liners: Many dry products which are packed in tin, or in cartons need to be kept from contact with the wall of the container. Most manufacturers of drug products and other dry materials find paper bags indispensable for this purpose.

Display Packages: While the paper bag has long served as a display package for such products as coffee and flour, the advent of transparent cellulose bags, and the vast improvement in bag printing, have transformed the paper bag into a true display package.

Shipping Unit: For non-rigid or semi-rigid products the heavy paper bag recommends itself as the most economical shipping container available. The heavy square bag used for shipping twenty-four one-pound units of coffee safely and economically is a good example of this field of service.

There are four shapes of bags available. These are, namely, the flat, the square, the satchel bottom and the automatic or self-opening. Each shape serves its own specific purpose and has its own advantages and disadvantages over the other shapes. A brief discussion of these follows:

The Flat bag: This shape, as may be seen from the accompanying illustration, is simply a tube of paper with one end turned over and pasted down to form the bottom. Due to its more rapid speed of production this is the most economical shape of machine-made paper bag. However, since it has no gusset or tuck at the side, to preform the bottom, the contents will necessarily bulge out. In many cases this is an advantage since it gives the appearance of extra bulk or quantity whenever or wherever the package is displayed.

The Square bag: This differs from the Flat bag in that it has a tuck or gusset at each side. The bottom can be formed by thrusting the hand inside of the bag and squaring it out. Because it has three definite dimensions, the Square bag is better adapted to package articles of a cubical form.

The Satchel Bottom bag: This shape is made from a flat tube without tuck or gussets in the side, but does have a small diamond shaped pre-formed bottom. The chief advantages of this shape are:

1. Its wide mouth which makes filling easier.
2. Its pre-formed bottom which enables the bag to stand upright while being filled.

The Automatic bag: This shape, sometimes known as the Self-Opening, is in some respects the most efficient of all machine-made paper bags. Due to the extreme complications of manufacturing the square pre-formed bottom, it is relatively more expensive than the other shapes of machine-made bags and somewhat more inflexible in its available combinations of dimensions. It can, however, be opened easily and stands absolutely upright, either empty or filled.

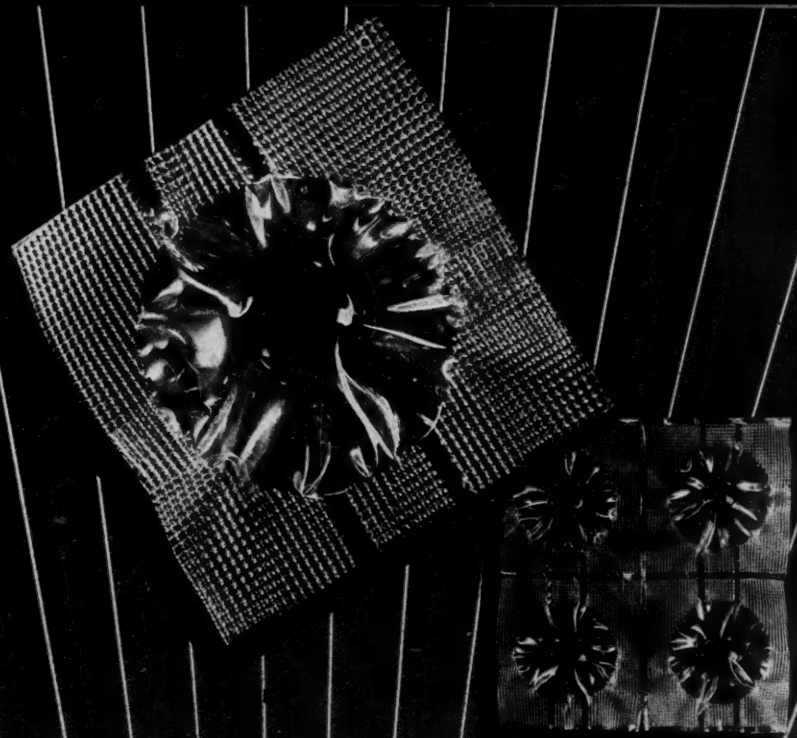
TRANSPARENT CELLULOSE BAGS

by GORDON H. FRIEND

WHEN bags of transparent cellulose were first offered to the trades they were accepted (sometimes almost reluctantly) as a novelty. Manufacturers in many businesses found that through the use of a transparent package they frequently doubled and even trebled their sales. They discovered, sometimes to their own amazement, that markups could be increased to more than cover the extra packaging cost, and continue to show tremendous sales increases.

Still, even the most successful users were skeptical. For the most part they believed that transparent packaging was a novel sales idea, a sort of "dodge" for outwitting competition. It was a widespread prediction that when the use of a cellulose package became general in a given field, sales would revert to the old level and everyone would be exactly where he started. But time has disproven these calculations and, instead, transparent packaging made possible many new retail outlets. It brought hundreds of items out of remote storage places and into prominent display positions on the dealers' shelves and counters. It made fast selling specialties out of slow moving staples, and greatly increased the total consumption of many products.

Transparent packaging is no longer considered a nov-



Gem of all wrappings

SEALTITE • SANITAPE*

This outstanding wrapping is used for a variety of products, and the adaptations are limitless. . . . Sealtite-Sanitape affords unequalled Protection—Convenience—Appearance, and provides a package which is beyond imitation. . . . The packages illustrated below were wrapped by our Contract Service Division which is also prepared to handle details of packing, shipping, etc. if desired. . . . We shall be glad to discuss the application to your particular problem, and suggest that the economy of Sealtite-Sanitape will probably surprise you.

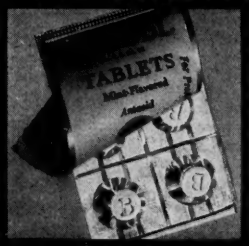
A FEW OF THE PRODUCTS PACKAGED BY SEALTITE-SANITAPE



CAPSULES AND PILLS



CHEWING GUM



TABLETS



RAZOR BLADES

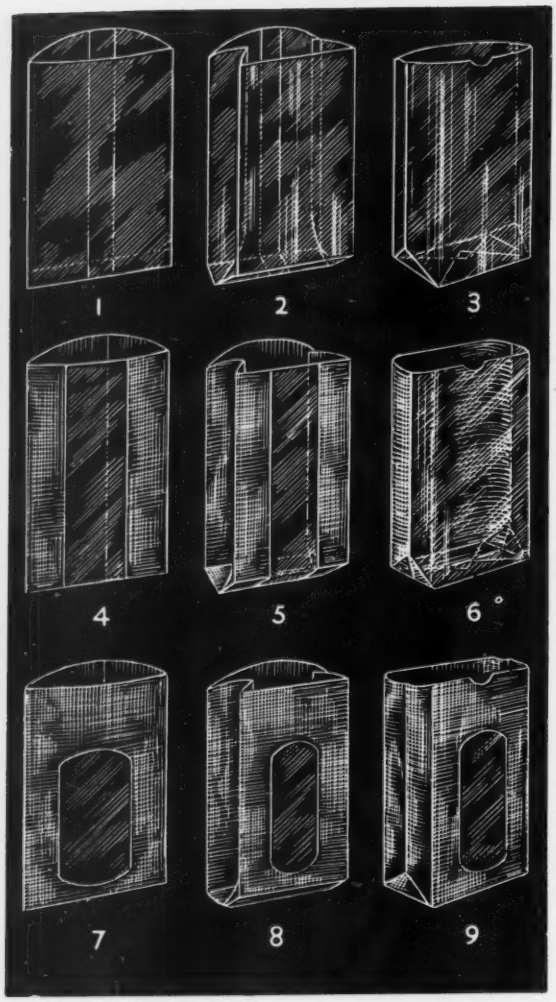
THE UNIQUE PHARMACEUTICAL PACKAGING SERVICE WHICH IS

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* Sealtite-Sanitape is a method of wrapping each individual unit in its own air-tight, moisture-proof paper, cellulose, Pliofilm or foil pocket.

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General types of transparent bags. 1. Flat. 2. Square. 3. Satchel. 4. Flat, window style. 5. Square, window style. 6. Satchel, half and half. 7. Flat, die cut, window style. 8. Square, die cut, window style. 9. Satchel, die cut, window style

elty. Improved manufacturing methods and lower material costs continue to widen the field of usefulness for cellulose bags and bags with cellulose windows.

Transparent bags are divided into three major style classifications: flat, square and satchel bottom. Figs. 1, 2 and 3 illustrate these styles. Each of these three styles may be again divided into two subclassifications: full transparent (a bag made entirely of cellulose) and window style (a paper bag having a strip of cellulose inlaid on the face of the package). The materials used may be plain, moistureproof or heat sealing transparent cellulose, colored or plain.

Flat bags and bags with tucks are available in an almost endless variety of styles and shapes, ranging in size from a flat bag small enough to contain an aspirin tablet, to a square bag large enough to package a woolen blanket. They may be made of a single sheet of cellulose either plain or moistureproof, or they may be double-walled (duplex). They may be printed in any size and from one color on the face only to four colors in all-over pattern and will be found suitable for many products.

Satchel bottom bags are used extensively by confectioners for packing bulk items, candies, nuts, etc. They are especially desirable for packaging dry groceries; rice, beans, peas, dried fruits and countless other bulks. Among the miscellaneous items packed in satchel bottom bags we find such products as grass seed, sea shells, cigar clippings and doughnuts. The outstanding advantage of the satchel bottom bag is its flat bottom, enabling the package to stand upright when packed.

Cardboard inserts are frequently used to give added rigidity and shape to the top and bottom of the package. Gummed seals are then applied to both ends to lend a finishing touch to its appearance. Until recently it has been necessary to insert these cardboards by hand at the time of packing; however, cellulose satchel bottom bags with "built-in" board bottoms are obtainable.

The idea of making double walled or duplex bags is an old one, but has been applied to transparent bags only recently, due to manufacturing difficulties.

The use of duplex bags has arisen almost entirely through a requirement for additional protective qualities. It has, therefore, found wide favor, particularly among packers of food products. In many cases, however, the packer specifies the cheaper plain cellulose for the outer sheet—a maneuver which almost defeats itself where protection is the object. The unusual hygroscopic characteristics of plain cellulose may cause shrinkage or expansion which will spoil the appearance of such a bag. To get the full benefit of a duplex bag, both sheets should be moistureproof cellulose. Secondarily, the need for extra strength has promoted the use of duplex bags.

Flat bags are seldom made duplex because they are invariably used for packaging small light articles.

Square bags and satchel bottom bags lend themselves readily to duplexing. The construction of these packages permits the manufacturer to print on the inside surface of the outside sheet—a procedure producing a lustrous effect which cannot be matched by any other method of printing.

Another minor point in favor of duplex bags is their superior rigidity. This in many cases speeds up packing, handling and enhances the value of the bag as a display piece.

Combination or window bags continue to expand their field of usefulness where visibility and economy are essential requisites. There are countless papers that may be fabricated with transparent cellulose and converted into bags in any of the three major styles. Moistureproof papers are used with moistureproof cellulose to give complete moistureproof qualities to the finished package. Likewise ordinary papers are used with plain transparent material where keeping qualities are not important. The width of the window may vary from a narrow strip of cellulose in the center of a bag to a wide strip spanning the entire front. It is sometimes extended to cover the front and sides providing only a narrow strip of paper which serves as the extreme back of the bag.



HEAT SEALED PLUS GLUE SEALED

DOUBLE CELLOPHANE ON EDGES

SIFTPROOF
MOISTURE PROOF
ADDED STRENGTH

The MUNSON BAG COMPANY

CLEVELAND · OHIO

Bags of the window type lend themselves beautifully to printing. Unusual and striking effects may be obtained by using brilliantly colored papers and contrasting inks for printing. Window bags are preferred by many packers not only as a measure of economy, but because they are easily opened and filled, and because less care is required to keep them in good condition.

Printing on cellulose bags is no longer in the experimental stage. It is possible as well as practical to print on cellulose anything that one might expect to obtain on ordinary paper, in color combinations up to four colors, and with the use of process plates and inks, the possibilities are extended to compare with the full color pages of present-day magazines.

Automatic bag filling equipment has reached a new level in perfection. Filling machines are now available for every type of bag, production in bag filling equipment reaching as high as 120 bags per minute.

METAL FOIL BAGS

METAL BAGS are the newest development in the bag industry. They are sometimes referred to as "flexible metal cans" because of the high degree of protection afforded their contents by the real metal stock from which they are fabricated.

The metal bag consists of a thin sheet of shiny, flexible aluminum metal laminated to paper (glassine, greaseproof, bond, cellulose, etc.) and formed into a bag. The metal surface is usually exposed and when printed in bright colors results in a package having powerful eye-appeal and can therefore attract unusual attention when displayed.

Surpassing the eye-appeal value of the metal bag, however, is its remarkable protective properties, of which the limited scope of this article permits only a brief description. Foremost among these protective features is the fact that the metal bag excludes all light—light which otherwise causes rancidity and spoilage. For example, such products as potato chips and salted nuts are especially sensitive to light, only a couple of hours' exposure being sufficient to cause a photo-chemical reaction to take place and this results in rancidity.

A second important feature of the metal bag is its resistance to moisture transmission. Moisture simply cannot escape through or penetrate into the solid metal bag wall. For instance, metal bags of potato chips after 40 hours continued exposure to saturated atmospheric conditions (95–100 per cent R. H.) at 100 deg F. showed only 0.99 per cent moisture absorption, against 18.70 per cent absorption by a non-metal bag under identical conditions.

Metal bags are made in both the square type and flat type, and both are available in the duplex style, that is with an extra inner liner of glassine, parchment, greaseproof, or other papers.

The bags are used either inside an outer paper carton or can, in which case they are unprinted, or used alone when they are printed in one, two or more colors. Tin ties can be provided which give the bag an excellent closure and a reseal device enabling the consumer to securely close the bag each time, thus keeping the contents in better condition.



Types of metal foil printed bags as used for food products are shown in the two illustrations at left. At right, plain metal foil bag as used inside a metal container



—with the reinforcing colored strip."

A bag is no stronger than its seams. That's why APG engineers have devoted years to devising the strongest, surest seams ever made ... seams so uniform that every single Amkleer bag leaves our plant "*powder tight.*" The special Amkleer reinforcing strip makes our bags more wear-resisting, too. In short, we build the quality into them and then make sure that it stays in right.

We'd like you to examine a selection of Amkleer bags ... test them by your own test ... tear them, compare them, fill them, drop them. We know they'll do a better selling job than any words of ours can.

Will you take us up on this—no obligation —offer? Write us now.

We also make flat and square Amkleer Bags . . . and keep a large constant stock of these lines always on hand for quick delivery. Wire for quotations and samples.

THE AMERICAN PAPER GOODS COMPANY

KENSINGTON, CONN. . . . . CHICAGO, ILL.

SALES OFFICES

NEW YORK · BOSTON · SAN FRANCISCO

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TEXTILE BAGS

TEXTILE BAGS, as the name implies, are made from woven fabrics of various kinds. There are four important types in common use.

1. *Cotton bags.* Many different styles of goods are used in making cotton bags, special constructions being designed to serve particular or unusual purposes.

2. *Burlap bags.* Jute, from which burlap bags are made, is a product of India. Burlap goods are made in India for the most part, although limited quantities of European made goods are available. Many different widths and weights of goods are used in making bags. The common widths of burlap run from 32 in. to 45 in., and the common weights from 7 oz. to 12 oz. Besides this, there are many special constructions designed for particular purposes. Burlap being imported from India necessitates an anticipation of supplies at least six months in advance as it takes considerable time to get the goods to this country after the order is placed. Burlap bags, because of their strength and low cost, are the most widely used containers for bulk products.

3. *Laminated bags.* These bags are made from either cotton or burlap goods and have a paper lining which is attached to the cloth by an adhesive. Any of the various constructions of goods used in making cotton and burlap bags may be employed in making laminated bags. The bags may have one or more plies of paper lining. The lining is attached by special adhesives. These adhesives may be of such characteristics as to make the bag waterproof or to give it some other quality which may be required. Laminated bags are used extensively as shipping containers for chemicals and food products.

4. *Paper fabric bags.* These bags are a comparatively new development. They are made from strips of tough paper, spun into yarn, and woven into open-mesh cloth. Many brilliant colors of goods are available. Paper fabric bags are used principally as containers for fresh fruits and vegetables.

Textile bags have certain characteristics which make them economical and practical containers.

Textile bags are light. They are thus easy to handle and labor costs and freight charges are correspondingly low. The tare weight of textile bags is frequently 80 per cent less than that of wooden containers. Freight savings may be 8 or 9 per cent more when bags are used.

Textile bags require little storage space. 500 bags, in a compressed bale, occupy the same space as one barrel.

Textile bags can be printed. Attractive multicolor brands can be printed on bags as well as formulas, instructions, and other information which may be necessary, thus stenciling and labeling with the involved labor cost, is eliminated.

Textile bags have good salvage value. The receiver of products packed in bags, either has uses for the empty bags himself, or if not, he can sell them at a good price as there is a steady demand for used bags.

Textile bags have two principal uses:

1. As shipping containers for bulk products. Food, agricultural, and industrial products, particularly those of a powdered or granular nature, are packed for shipment in bags. Flour, salt, grain, seeds, feeds, fertilizers, cement, chemicals, and hundreds of other bulk products are shipped in textile bags.

2. As consumer packages. During recent years the use of consumer packages has been one of the outstanding developments in the retail merchandising field. One of the most significant developments in consumer packaging has been the use of open-mesh bags for fresh fruits and vegetables. These bags are made with a band around the center, on which brands and trade marks may be printed in attractive colors.

BAG CLOSURES

THE TYPES of bag closures shown in the accompanying illustrations are those ordinarily used for small size paper, foil and transparent cellulose bags, such as are detailed in the chapters on pages 124, 128 and 132.

For the larger size bags, such as the heavy duty, multiwall bags; bags for flour, cement, etc., there are special closures. Two of these, the Bates valve bag and the machine sewed bag, are shown on page 142. Others in this group are as follows: The hand sewed (thread) type which is used only on textile bags and is not temperproof. The hand tied (string) type which is used on both paper and textile bags. The wire tied type, used on both paper and textile bags and requires the use of a hand tool to apply. The Hamer closure, used on both paper and textile bags, which requires a machine to apply the metal ring clamped around the bag. The Duvall closure



The BAGPAK METHOD . . . . comprising a combination of tough, strong paper bags and modern efficient packaging equipment . . . . offers the maximum in protective packaging, plus a complete heavy duty bulk packaging service.

Mechanically perfected Bagpaker machines speedily and economically weigh, fill, close and seal your material into the bag, or perform any part of the packaging cycle desired.

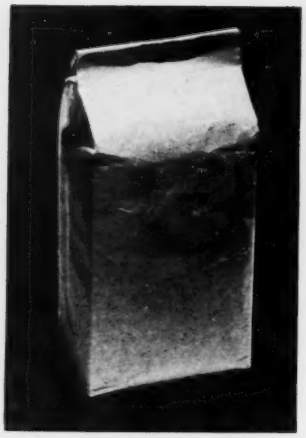
Rigid technical control at every step in the manufacture of both bags and equipment has placed BAGPAK heavy duty multi-wall paper bags and The BAGPAK METHOD at its present top . . . . a fact which is today revolutionizing the packaging systems of many industries.

BAGPAK INC

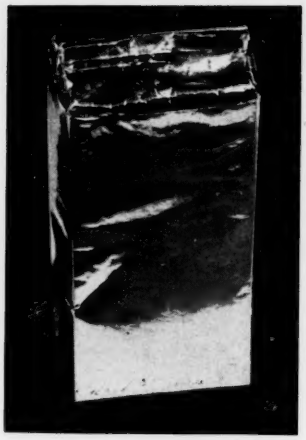
220 East 42nd Street **New York City**



Square top or flat closure



Wire staple closure



Hesser closure, foil bag

which is used only on paper bags, especially large sizes with multiwall. This requires a machine to apply, and in combination with a machine sewed snake stitch this closure is stronger than the walls of the bag. For flour and similar materials a special closure is used. The top portion of the bag is knocked entirely flat without tucking in the side panels, and folded in the usual way with a top label used as a seal. Such bags have two ears by which they can be handled easily, which is of advantage for fairly heavy flour and other bulk product bags.

The Sealtite closure which is produced on special equipment provides a convenient pouring spout when opened. A double fold produces a square flat-topped sift-proof seal which permits easy stacking and excellent display advertising value.

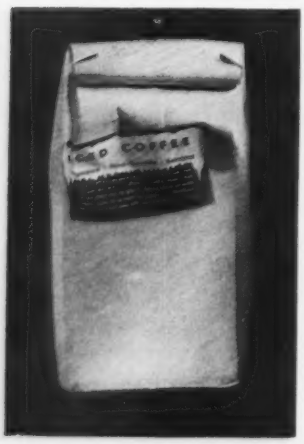
The Allison closure seals the contents with a triple fold and a strong strip of gummed paper tape. The folds are pressed firmly to the top of the material in the bag while the moist tape is rolled down over the sides.

The square top or flat closure (also known as the Hesser) uses a card which is placed inside the bag in most cases. The bag top is folded down and sealed by gluing with a top label (not gummed) glued on in addition. This type may be varied in at least two ways. For easy sifting products like sugar, the gluing is done in a different way and sometimes the top label is left off. Then the outer wrapper is die cut, folded and glued top and bottom in a manner suggesting a band label which extends around the face of the bag.

The wire staple is the most economical. One or more staples may be used. Outside of its economy this closure is used when the material of the bag does not glue well, and when a tamper-proof seal is wanted.

Probably the best known of the Hesser closures are the tin-tie closures, made in two different ways, as illustrated in the foil bag and tin-tie closures. In the foil bag the top folds are pressed flat and the top portion flares up. In the other style the bag top is rolled and pushed down. This rolled portion is left rather loose as that facilitates opening.

The metal clip closure is crimped over the folded edges of the bag. This is used on paper bags and especially on transparent cellulose or similar thin grades where care must be taken to prevent tearing. The clip requires a



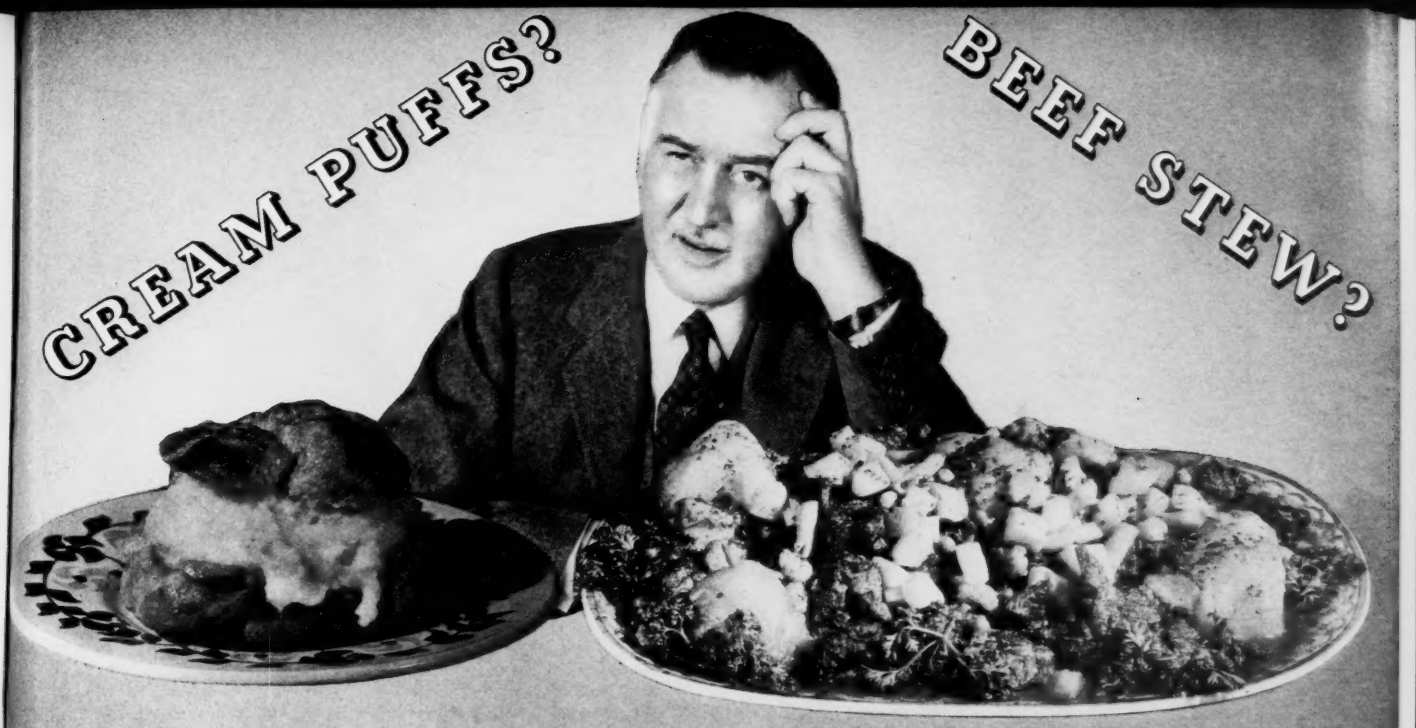
Tin-tie closure



Metal clip closure



Deltaseal closure



WHICH WOULD YOU CHOOSE FOR A STEADY DIET?

"Cream Puff" Bags delicately assembled of fragile materials and laboriously printed in many colors, have their place in the packaging picture . . . but it is a small place. They make swell museum pieces, but they can't stand the gaff in the hard-hitting business world of today.

It is the strong, durable, economical "Beef Stew" Bag that will do a real job for your product. While Equitable also manufactures fancy bags—Equitable specializes in practical bags.

You are interested in modern packaging. (Otherwise you wouldn't be reading this valuable book, much less this important advertisement.) Equitable manufactures nothing but modern packages.

The most modern packages in existence are Paper Bags:

Because they cost less!

1. Less to buy—No waste of material, time nor space in manufacture, nor in shipment to you. Fewer sizes needed—bags adjust to any shape of the contents.

2. Less to use—Quickest, easiest, packages to open, fill and seal. Require least amount of storage space.

Because they do their job!

We will be glad to tell you the names of nationally prominent manufacturers who have found new package efficiency in the adoption of Equitable Paper Bags.

You are vitally concerned in modern packaging and Equitable is able and anxious to help you get a real modern package...modern in appearance...modern in utility...and modern in cost.

EQUITABLE

325 MESEROLE ST. **PAPER BAG COMPANY, INC.** BROOKLYN, N. Y.

XUM



Sealtite closure

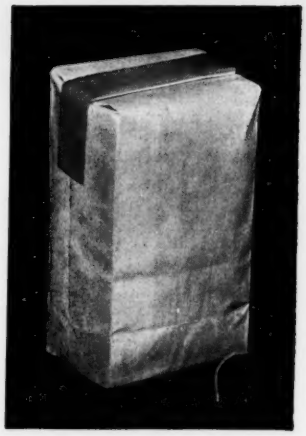
tool for application.

The Deltaseal is used only on paper bags and requires a special machine for its application. As may be seen from the illustration, the flaps are folded in such a way as to enable the lifting of one end so that it may be cut along a perforated line without disturbing the other folds. When cut in the manner shown, the opened end forms a convenient pouring spout. The top of the bag, sealed, presents a flat surface—a definite advantage in stacking.

Each of the types illustrated and described has its advantages, depending on the product to be contained, the material from which the bag is made and the conditions surrounding production of the package.

With the exception of the stapled bag—and this too may be closed by automatic instead of hand equipment—all of the closures shown require machine units for sealing. Such units for folding and sealing are usually integral with or included as a part of the weighing equipment.

In the closing of the larger size bags there is a definite advantage, providing of course that production conditions are equal, in machine versus hand-closing of bags. According to actual figures, obtained at one plant where both operations were used, the cost of machine sewing is approximately one third that of hand sewing.



Allison closure

In general, the consideration of bag closures is of equal importance with that of the material from which the bags are made and their construction. It is essential, then, that manufacturers of bag closures and machines for forming them be freely consulted.

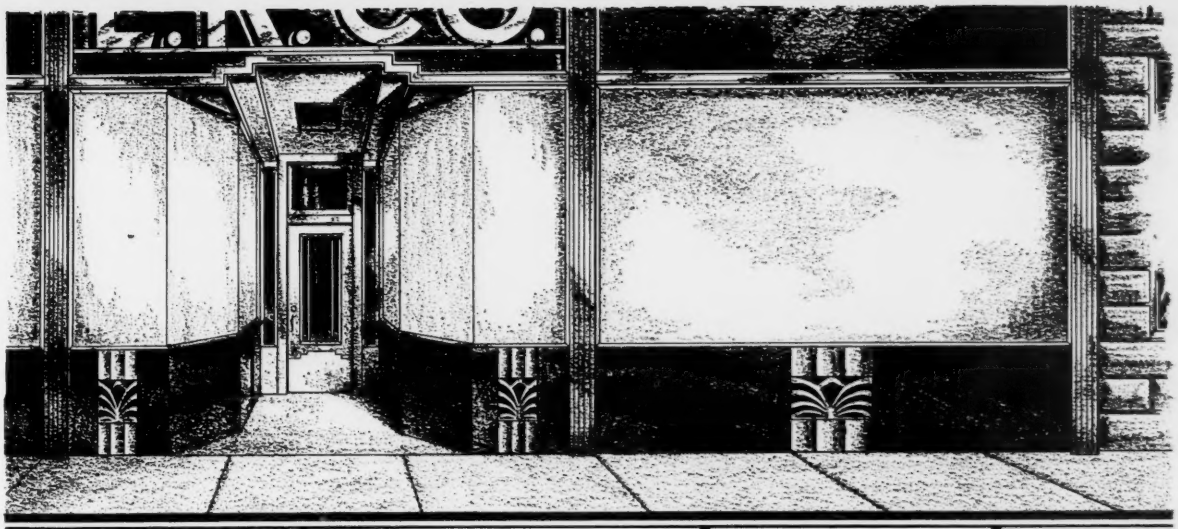
ENVELOPES AND PACKETS

ENVELOPES AND PACKETS are rightly considered as important packaging materials because: (1) there are many products which can only effectively and economically be packaged in them; and (2) special uses for certain products demand their use, such as the following:

1. Individual portions, such as hot chocolate powder for soda fountain and restaurant service.
2. Small units—such as small parcels of seeds or certain drug products such as five aspirin tablets.
3. Small quantities of powdery substances which must be completely enclosed to prevent sifting, such as face powder, which may be carried in a woman's purse on a shopping trip.
4. Flat objects of light weight, such as hosiery, gloves, collars, embroideries, etc.
5. As a suitable container for a sample for general distribution, such as an anti-acid powder.
6. Furnished by a manufacturer, as a means of safeguarding the identity of his product all through the distribution process, to retailers who buy in bulk or large unit packages, and dispense in small units to ultimate consumers.

In general usage the term "packet" applies particularly to envelopes or enclosures which contain flower and vegetable seeds, and are beautifully lithographed in color with true-to-type reproductions. All other flat type containers come under the general classification of *merchandise envelopes*. Special trade names are used by the envelope manufacturers to designate their particular makes, such as: "De Luxe" seed packet line, of the Stecher-Traung Lithograph Corporation; the "Easy-Opening" envelope of The Brown Bag Filling Machine Company, and the "Pac-Ket," "View-Pac" and "Display-Pac" envelopes made by United States Envelope Company, although the general terms of packets and merchandising envelopes properly cover all available styles now in use.

In size they vary from the tiny $1\frac{1}{2}$ in. $\times$ $1\frac{1}{2}$ in. center seam envelope, used for two or three pills, up to the $6\frac{1}{2}$ in. $\times$ $9\frac{1}{2}$ in. or $7\frac{1}{2}$ in. $\times$ $10\frac{1}{2}$ in. general utility envelopes, accommodating one or more pairs of hose. There are practically no limitations as to styles of papers used in making them, as to color, finish, weight and texture, as well as whether they are transparent, semi-transparent or completely opaque. They may be had both in open end and open side styles, either with or without flaps, depending on the product to be packaged. And as to surface decoration they are capable of receiving any type of printing or lithography, in any color or combination.



frosted glass in your show windows?

...absurd you say, but it's still being done every day. Your package is the show window for your product—that is, it is, if you package your product in a "Cellophane" Bag.

Packaged in a "Cellophane" bag, your product *can be seen,* kept fresh, sanitary, and clean, resulting in greater sales and fewer returns due to soil from dirt or handling.

Start today to take the "Frosted Glass from Your Show Windows"—consult our Packaging Engineers about enclosing your product in a printed or plain "Cellophane" bag. There will be no obligation to buy.

GLASSINE & CELLULOSE DIVISION

CUPPLES-HESSE ENVELOPE & LITHO. CO.

4169 N. KINGSHIGHWAY ST. LOUIS, MISSOURI

ENVELOPES • TAGS • LITHOGRAPHED STATIONERY • GLASSINE BAGS & FOOD CUPS ARE OTHER CUPPLES-HESSE PRODUCTS

There are six major reasons why packets and merchandise envelopes are in such large use today and serve as the packaging medium for such a large variety of popular products:

1. *Economy.* Compared to most types of containers, merchandise envelopes are very low in original cost, require minimum storage space, may be economically and quickly filled and finally shipping costs are nominal. High speed fully automatic envelope filling and sealing machines are available at surprisingly low figures.
2. *Protection.* Through the use of papers designed for their particular protective qualities, certain types of adhesives and special envelope constructions, it is possible to incorporate such features as the following: Protection from sifting, moisture absorption of product; dissipation of moisture from the product; loss of product perfume and flavor, and freedom from product rancidity.
3. *Identification.* Products which are sold to the retail trade in bulk or large packages to be dispensed to the consumer in relatively small quantities are very liable to lose their maker's identity, and of course are subject to substitution. Factory-packed envelopes nicely overcome this difficulty, and because of their greater convenience and time-saving qualities in handling, are welcomed by alert dealers. In addition to printing the envelopes with the trade mark, name or other insignia of the maker, one pharmaceutical manufacturer discovered that through the use of envelopes made of water-marked paper, practically all complaints caused by substitutions formerly made by certain questionable retailers ceased.
4. *Unit of Measure.* In many cases, completely satisfactory results will depend upon the use of a specific quantity of a product, which the manufacturer has determined by scientific research. Left to his own devices the consumer may carelessly take an over- or under-dosage, from a large container, simply due to not having any way of measuring the exact quantity specified, with equally unsatisfactory results. A merchandise envelope enables the manufacturer to package the exact quantity his greater knowledge dictates as necessary to accomplish a certain positive result, thereby assuming consumer satisfaction, as well as the elimination of guesswork. In the case of certain drug products it may be necessary for the consumer to supplement the morning and night doses with one at noon. If the manufacturer has thoughtfully packaged his product in envelopes, one may be readily slipped in a pocket or purse, and the treatment continued, even though the consumer is at work, on a shopping tour or otherwise engaged away from home.
5. *Attractiveness.* If the product possesses good eye appeal such as salted nut meats, it may be packaged in an envelope made of transparent cellulose, suitably imprinted with the manufacturer's trade mark or name, which will show off the product to good advantage. If, however, there is no advantage in having the product readily visible, the envelope may be made of any one of a wide number of white or colored papers which may be printed in any color or combination desired. Packaging ten-cent white cotton handkerchiefs in beautifully printed transparent cellulose envelopes and placing thirty-six of them in a counter display container has been found to materially increase sales for a North Carolina manufacturer.
6. *Sanitation.* Materials and products which remain untouched and free from contamination through the manufacturing processes should continue in this same healthful condition until they arrive in the hands of the ultimate consumer. Merchandise envelopes will accomplish this result very effectively and discriminating consumers will appreciate and give preference to products thus protected.

A group representative of the thousands of products effectively and economically marketed (in full or sample sizes) packaged in envelopes and packets



Credit: The information for the above article was obtained through the cooperation of the following: Dana W. Rhines, sales manager, The Brown Bag Filling Machine Company; Fred C. Herzog, sales manager, Stecher-Traung Lithograph Corporation, and E. L. Wight, United States Envelope Company.

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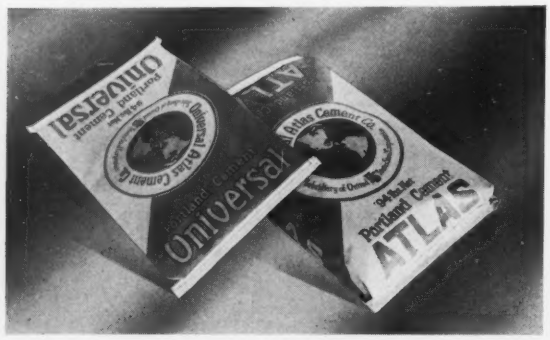
DESIGNERS & MANUFACTURERS of MODERN BAG PACKAGES

Benj C Betner Co
DEVON PENNA

HEAVY DUTY PAPER BAGS

by W. E. SCOTT

PAPER BAGS of the heavy duty multiwall type are a comparatively new addition to the field of slack cooperage, having come into general use only as recently as the year 1925. These bags are designed to hold from 50 to 140 lbs. of commodity and may be constructed of from three to six walls of heavy kraft paper, depending on the weight, density and physical characteristics of the product they are intended to carry. The principal shipping unit is generally 100 lbs. Commodities ranging in value from a fraction of a cent to almost nine cents per pound are being shipped all over the country daily in this weight unit on the lines of the common carriers and many manufacturers have found this type of container to be ideally suited from both the economical as well as the utilitarian standpoint for units ranging in weight to as low as 50 lbs.



Valve bags. Valve shows in lower left corner of bags on left

There are two types of heavy duty multiwall paper bags in general use. These are the valve bag and the open mouth bag.

The Valve bag: The valve bag is factory closed; by this is meant that it has been closed both top and bottom at the point of manufacture. This closure will have been effected by either pasting or sewing. A small triangular opening called the "valve" is left open at the top and the bag is filled in the customer's plant by means of special machines which force the material into the bag under pressure. When filled, the pressure of the material against the walls of the bag automatically shuts the valve and the bag is closed and ready for shipment.

The Open Mouth bag: The open mouth bag is factory closed at the bottom only. The top of the bag is left open ready to receive its load from the filling equipment in the customer's plant. Since the process of filling an open mouth bag is much more gentle in action than the pressure method used with the valve bag, there is less chance of altering or breaking down the original structure of the material when this type of bag is employed. This is an important point, especially where so many commodities, such as many fine food products, are sold on "structure." After the bag is filled, it is then closed by sewing with a reinforced stitch, duplicating the factory closure on the bottom of the bag.

Manufacturers of the heavy duty multiwall type bag have established a most rigid standard of laboratory control in the development and manufacture of these bags. Forgetting the chemistry, the enormous equipment, the elaborate controls, the repeated tests at every stage of the processes that go into the making of a sheet of kraft paper, let us think of the processes that determine the *right* bag for 100 lbs. of any commodity.

First, a study of the character of the product is made, its susceptibility to moisture and humidity, the conditions under which the bags are filled, shipped, stored and otherwise handled.

Second, many different sample bags are made—carefully tailored to the measure of the product. These are filled and "drop" tested to determine the strength of paper and number of walls required.



Open mouth multiwall paper bags. The filled bag has made a journey of over one thousand miles in an L.C.L. shipment

Advantages of the heavy duty multiwall paper bag are as follows:

Tight safe closure: No losses of product; no sifting; no dirt in customer's plant, distributor's warehouse, or user's premises. No contamination of contents.

Moisture-resistant: Protection of soluble ingredients from moisture, whether in the air or from direct contact with water.

Vermin-proof: Freight cars or steamers may be infested from previous cargoes, but the heavy duty multiwall bag will prevent infestation of contents.

Easy lifting and handling.

Safe storage means much to dealer and user in stacking.

Sales value: Trade mark or brand name on a printed paper bag—vivid, impressive.

Low cost: The package *costs less—packaging costs less.*

SECTION 4

WRAPPINGS AND TIES pages 144–186

MANUFACTURE OF FANCY PAPERS
GLAZED AND FANCY PAPERS
TRADE MARK PAPERS
DISPLAY PAPERS
METAL FOIL
GLASSINE PAPER
WAXED PAPER
GENUINE VEGETABLE PARCHMENT
TRANSPARENT WRAPPINGS
PRINTED TRANSPARENT CELLULOSE WRAPS
LAMINATED TRANSPARENT CELLULOSE
WINDOW FACE WRAPS
TISSUE PAPERS
ANTI-TARNISH PAPER
LEATHERETTE AND FABRIC MATERIALS
COTTON TYING RIBBONS
DECORATIVE CELLULOSE RIBBONS
CELLULOSE CORD
SHREDDED PAPERS

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MANUFACTURE OF GLAZED AND FANCY PAPERS

OF all the materials that enter into the production of packages, glazed and fancy papers are undoubtedly the most widely used. For billions of boxes, labels and for wraps, for displays and display cards, some type of glazed or printed paper is constantly being developed—some other type is constantly sinking into the oblivion of demoded styles. Yet of all the packagers materials, none is less clearly understood in its qualities and in its potentialities than are these so-called "fancy" papers.

If you want to know what you or your boxmaker are buying when you purchase fancy papers, you must first of all disabuse yourself of the idea that fancy papers are merely wall-papers cut into sheets. They bear no more resemblance to wall-papers than the boxes they cover do to houses. Their designs (if any) are smaller, their base paper usually of better grade, their processing infinitely more complex, their wearing qualities infinitely greater. Surprisingly, their cost—in so far as comparable grades might be compared—is unusually less. Nor will you get very far if you confuse these papers with coated book papers. Here, while the machines used bear a certain similarity, the purpose and, hence, the process differ radically from the latter.

Coated book papers are treated principally with the intent of providing a fine surface for fine printing. They must be considered not as something in themselves but as a background, a web upon which fine printed effects may be achieved. The boxmaker's papers, on the other hand—though often printed—function not as backgrounds but as foreground, covering and decorating the underlying frame.

Since functions differ, products differ. And glazed and fancy papers therefore are produced by a technique all their own. It is this technique which limits the number of fancy paper manufacturers to some fifty odd. It is this technique which determines the varying costs of varying grades—which is said to have required forty years for its full mastery—which holds the number of "new" papers down to a very few hundred a year. Which, finally, prevents many young men and many old paper mills from jumping into the seemingly green pastures of the fancy paper business.

For limitation of funds wouldn't keep you out of fancy paper manufacture. A relatively insignificant sum—cooperatively speaking—would set up a coating mill. A million and a half in cash could probably duplicate any one of the larger mills—a mere hundred thousand, some of the smaller plants.

But you would have to be the very pampered son of a very wealthy father, if you intended to eat while waiting for time and experience to weather you into the semblance of a fancy paper manufacturer. And with every year, you would find your fixed investment in processed and unprocessed stock, in printing rolls and embossing dies, growing larger. If you lasted ten years you might become the proud possessor of a "line" of papers—the repeat sales of which would support your stock-and-tool fixed capital. Even then, you would have had to be particularly lucky in your selection of patterns, your avoidance of fads, to find much more than fifty per cent of your rolls and dies still free from utter obsolescence.

Plainly then, the glazed paper industry is one for experts. Profits come—as in all semi-style fields—through the development of a large percentage of continuing successes, a small percentage of single-season fads and an absolute minimum of utter flops. That these profits have been sizable in years long past, even pessimistic paper men will admit. That they have been few and far between since the late twenties all paper men will swear.

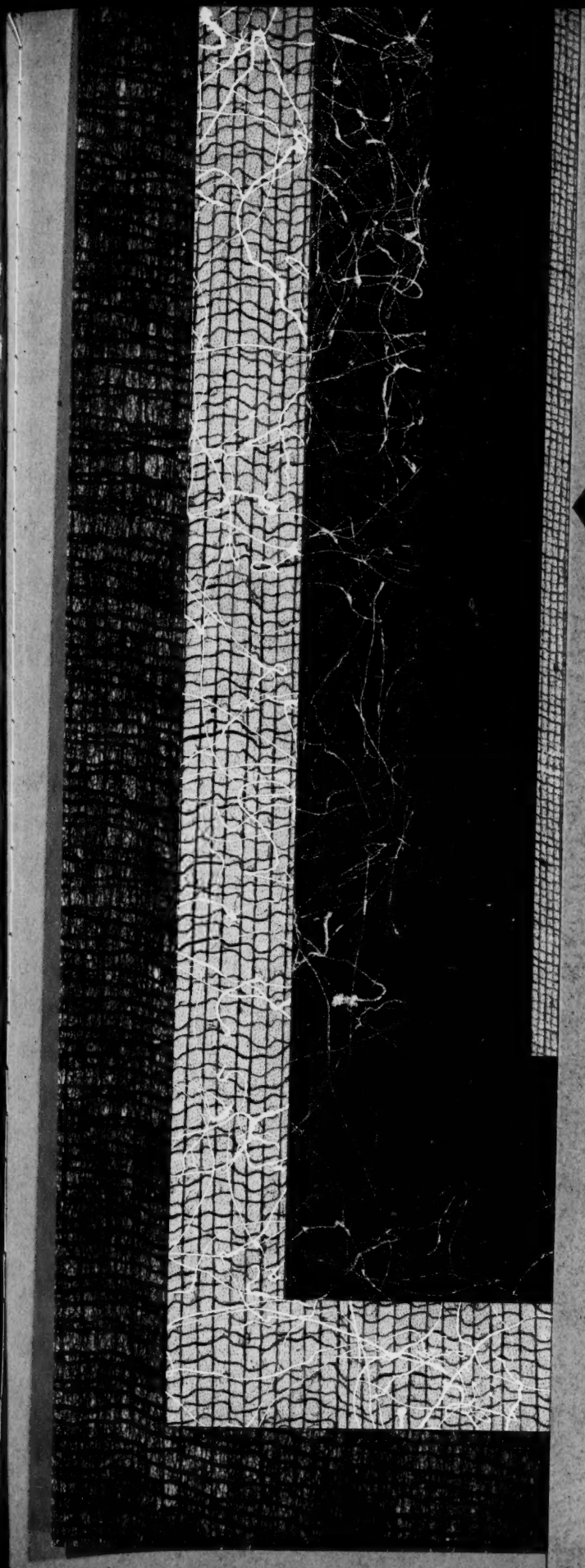
The subtlety of the fancy paper-making process (and the fact that many of these have at one time or other been secrets belonging to one or a group of mills) has tended to set up a bond of silence among paper manufacturers which has greatly hampered the paper purchaser in his search for a knowledge of just what it is he purchases. Not that too many paper buyers have shown much interest in anything beyond design and price. Few have. But the number is growing as more and more companies become aware of the other desirable qualities which may be present or absent in any particular paper. Today, more frequently the purchaser is heard to question the seller on such points as color fastness, weight of coating, stain-proofing, scuff-proofing, printing qualities, and similar properties.

Most mills can easily supply papers ideal for the particular needs of their clients—if these needs are made clear. But to make them clear, it is necessary for the buyer to know something of the process of paper manufacture. If you would prefer to rely upon the good judgment of your favorite paper salesman or boxmaker (and, with good reason you may) there will be little need for your reading what comes beyond.

Essentially, the creation of a fancy paper consists of two distinct types of operation. First, you coat the raw paper stock, giving it a base color, white, red, pink, blue or what you will. Second, you decorate or finish the coated stock by putting it through one or more further processings. You may decorate it by printing or embossing or by combining the two. You may surface it by embossing, flinting, calendering or friction-glazing. And here again, you may combine the first of these with any one of the other three.

Thus, you might find a paper of light blue background (applied by coating) with a two-color pattern (applied by printing) and raised surface (applied by embossing). You might, in fact, use the number of processing opera-

XUM



AN
AMAZING ADVANCEMENT
IN
DECORATIVE MATERIAL
FOR
ATTRACTIVE PACKAGING

XUM

A NEW FABRIC
by a NEW Process
that assures distinctive packages.

●

- **SUPERIOR ARTISTIC VALUE**
- **WIDE RANGE OF APPLICATIONS**
- **DELIGHTFULLY DIFFERENT**
- **LOW COST — NO ADDITIONAL DECORATION NECESSARY.**

●

The samples here shown represent but a small fraction of the designs, textures, and color schemes available . . . less than one percent. To see the rest . . . to get the full picture of the great possibilities of these new fabrics, write for additional information and sample book.

UNITED COTTON PRODUCTS COMPANY

SALES OFFICE:
2 Park Ave., New York City

FACTORY:
Fall River, Mass.

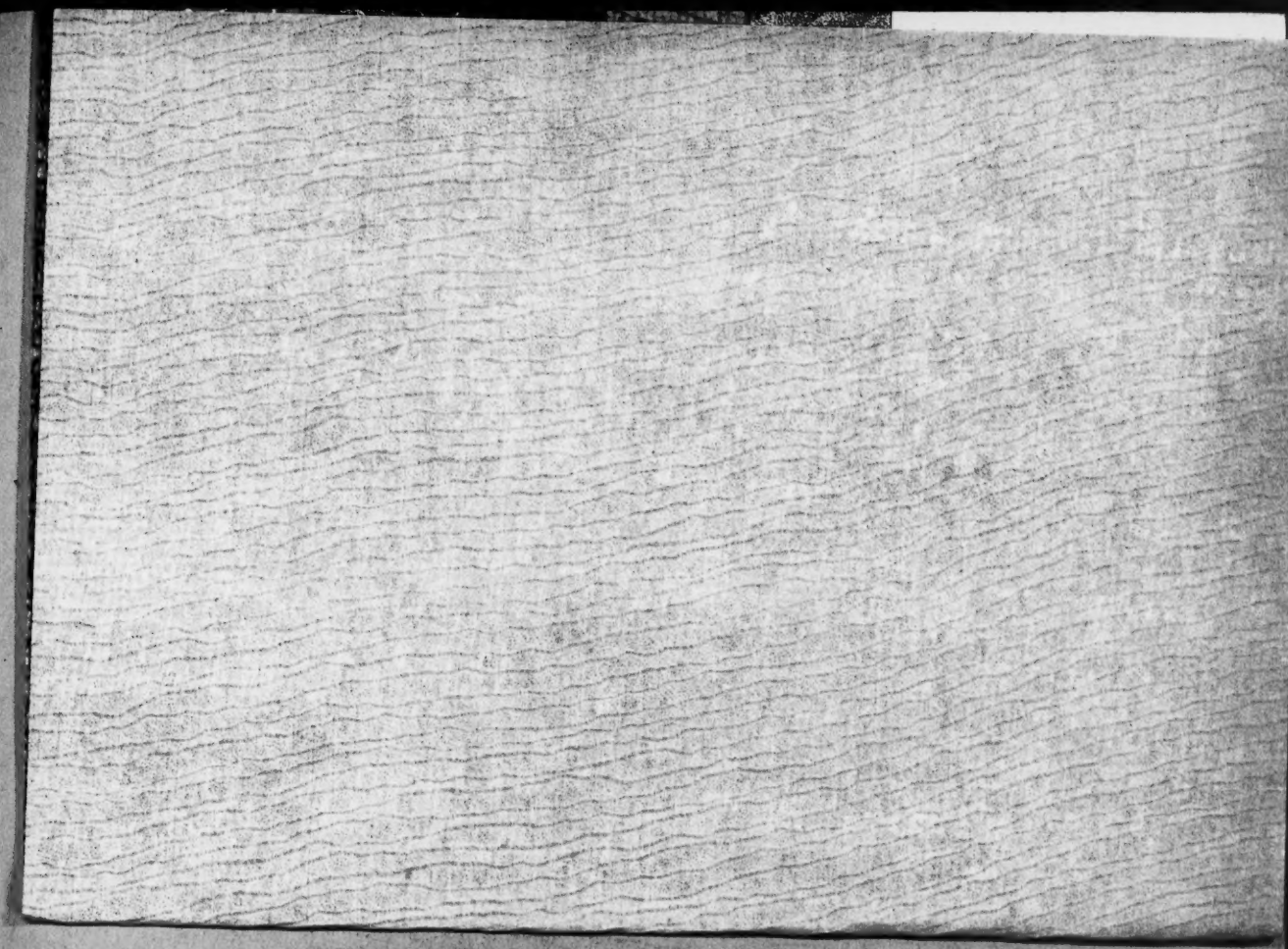
A Division of United Drug Company

← LIFT UP

XUM

XUM

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The Techniques and Mechanisms Used in Producing These Fabrics are NEW. Affording You the Opportunity of Using NEW Mediums for Creation of Strikingly NEW Packages.

CODE NUMBERS

Of attached fabrics listed in order of size of swatch from small to large.

23-10F

321

249

316-10F

314-GV

354-A

7-B

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tions as a very rough guide to the price of a paper. You might—but if you are wise you won't—for many other factors enter into the cost, including quantity, frequency and volume of demand, cost of raw stock, size delivered and other similar considerations.

Consider first the coating operation. Most mills keep substantial stocks of finished papers on hand. When the stock of any pattern reaches a given depletion point, the raw stock from which that pattern is made is withdrawn from storage and sent to the coating rooms. Here it meets, at a machine that looks like a series of glorified street-sweepers' brushes, the coating materials, consisting of casein and the proper color pigments processed to the desired consistency.

The actual process of coating is simple to describe but difficult to control. Briefly, it consists of what might be called "floating" the liquid coating mixture onto the moving ribbon of paper, brushing the paper to insure even distribution of the coat and then running the paper in festoons down a block-long gangway and back (during which time it is subjected to a blanket of warm dry air) and, finally, re-rolling and slitting the paper to remove the edges where the coat is imperfect. Most often, the raw stock is slightly more than double the width of the final roll, an additional center slit being made at the same time the edge slitting operation is performed. Thus the process starts with a wide roll of raw stock and ends with two rolls of coated stock. In special cases this last slitting operation may be omitted or the number of final slits be increased.

If the paper is to be one tone, embossed sheet—as in the case of an imitation leather—the coated rolls proceed to an embossing machine, consisting essentially of a chromium faced steel "male" roll and a "female" roll made of thousands of layers of paper disks set so that their edges form the surface of the roll. Whenever a new roll is placed in a machine, it is run for a period to "work-up" the female roller, making it take the impression of the steel roll. Then, when the now coated stock is admitted to the machine, the female roller maintains sufficient pressure to permit of embossing but so distributes the strain as to prevent breaking of the papers fibers. As it passes through the embossing rolls the paper is rewound for future use.

Suppose your paper is to be provided with a hard, glossy surface—to be glazed, rather than embossed. It would then proceed to either of three machines.

The simplest and least costly surfacing process is known as calendering. The paper is passed through a series of infinitely smooth rolls which by their very pressure provide a soft, silky gloss.

Slower, and hence more costly, is the friction glazing process. Here a machine basically similar to the calendering machine is used, but the roll on the coated side of the paper moves at a speed slightly different from that of the paper itself, thus rubbing the casein coating to a hard, finely polished surface.

The third alternative is the flinting process. In principle it corresponds to the friction method. In practice it differs radically. The flinting machine resembles a giant grasshopper, consisting, as it does, of a long, ceiling suspended arm which carries a stone back and forth across the slowly moving paper—polishing a strip about one-half inch wide at each stroke.

The glaze applied by flinting is harder, the polish higher than that of both the other processes. The speed is infinitely slower. The cost is therefore substantially greater. Yet the finished product is so bright, so attractive and so resistant to wear as to fully justify the extra expense in the minds of many paper purchasers.

Last of all, we have the printing process—a hybrid between fine rotary printing and the coating machine. Here high-relief printing rolls apply the design to the moving sheet, after which it passes once more down a festooned gangway until dry enough for re-reeling.

Remember that the number of processings (and their sequence) is dependent upon the effect desired on the finished sheet. Remember also that the average mill has a library of several hundred embossing rolls and an almost equal number of printing rolls—that colors can be almost infinitely varied—and you will thus understand that the average mill could produce literally thousands of different papers.

The word *could* is important. For stock purposes, the mill can afford to produce only those combinations of design, color and finish for which a sufficient demand exists or can be made to exist. For special orders, however, most mills can and will give you any combination of the above-named factors that you desire. Remember, though, when you make your demands, that for each process there is a certain minimum run factor, below which point your costs will skyrocket. Thus it takes as much time and labor to mix a small batch of coating as it does to mix a much larger batch. It takes just as long to set up a printing machine for one roll as for a hundred. If you demand small runs, expect to pay the full maximum factor. Better still, don't demand special runs on small orders unless you know what these entail.

And, on the subject of special runs, remember that it is perfectly possible for you to have a special paper made with your own design or your own embossing. Remember also that printing or embossing rolls cost at least two hundred dollars—often more. On the other hand, remember to assess you costs against a long series of reruns, for such rolls last a long, long time. Best advice: Tell your mill just what you want, have them figure on that and on one or two compromises, then select the method that best fits your purse. If you can't place an order for at least a hundred reams, forget about a private paper and remember that there are an enormous number of astonishingly fine stock items available.

Manufacture of Foil and Foil Papers

INGOT ALUMINUM, intended for foil, arrives at the sheet mill in the form of oblong slabs weighing up to about 300 lbs. By passing the ingot through a succession of rolls, the metal is gradually rolled out into sections of plate or sheet a fraction of an inch in thickness and many feet long. Skilled workmen feed the metal

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through the passes, shearing the pieces to size and otherwise preparing the metal for further working.

Depending on its intended use, aluminum sheet comes from the mill in flat form or coiled. For conversion into foil, coiled sheet is used. Operations at the foil mill in the early stages are a continuation of the sheet mill processes. The first breakdown mill takes the coiled sheet at $^1/_8$ in. and reduces it by a series of passes to a thickness of approximately $^1/_{32}$ in. A second breakdown mill rolls the sheet still thinner. The metal is called foil rather than sheet from here on, the dividing line being about .005 in. For some applications, rolling ceases at this point and the foil is sheared and prepared for shipment. However, for most packaging work, further processing is necessary.

In the thinner gages the foil is harder to handle and two coils of foil are run through the rolls together, being separated later. The coils are usually sheared to exact size in connection with these necessary combining and separating operations.

To thoroughly remove all rolling lubricants from the foil and to make it pliable, the coils of foil are placed in electrically heated annealing ovens, being held there at a carefully controlled temperature.

For some purposes aluminum foil is used plain. In other cases it is decorated. In the latter field the possibilities are almost unlimited, the finishes including a pearly lustre, polished silver, dull silver and a wide range of embossing running from a fine tracery for soap wrappers to large bold designs. Any of the textures may be given a clear lacquer for an ink foundation, or colored in practically any desired shade, from the palest of gold to brilliant reds, greens and blues. A transparent effect is obtained by permitting the aluminum to show through, creating a metallic lustre that is highly pleasing for certain purposes. For more subdued effects, a pigmented color may be used.

Aluminum foil is embossed by running it through steel embossing rolls. Both colored and uncolored foil are embossed in this process.

Lacquering of Foil

Lacquering is likewise accomplished by rolls. The lacquer, fed into troughs into which the rolls dip in revolving, is immediately transferred to the foil. The lacquered foil is conveyed by belt through drying ovens which thoroughly dry the lacquer. The lacquers are moisture-resistant and innocuous which makes foil thus prepared perfectly safe to use in connection with food or other products which must be protected.

Frequently the foil is given a paper backing which may be secured to the foil by means of cement, glue lines or asphalt adhesives. The backing and adhesives are likewise applied by rolling operations.

Foil wrappers are usually printed prior to shipment. As many as three colors are printed on foil with no difficulty, and in a modern lithographing and printing plant the possibilities in colors are unlimited. Rectangular sheets are printed on flat-bed presses in single or multiple and later sheared to size. Coiled material suitable for use on automatic packaging machines is printed on rotary presses.

Most foil is shipped in coil form. To avoid possible damage each coil is carefully placed on an individual spool and felt buffers placed over the ends. Sturdy wood boxes carry the coils to packagers all over the country to be fashioned into liners, wrappers, labels, milk bottle hoods and other useful articles.

The individual requirements of the packer determines the type of foil best suited to his needs. Plain foil, which is less expensive than decorated foil, is employed where there would be no particular advantage in using a decorative scheme. Tea containers, chewing gum wrappers and certain types of candy bar wrappers are among the more familiar examples.

If a patterned foil is desired, embossing is recommended. Embossing reduces the brightness of the foil finish, giving a finish that is highly effective for certain purposes. Lacquer, used either plain or tinted imparts to the surface of aluminum foil a lustrous metallic effect. Practically any shade is available.

Sometimes the printed message and the name of the product is incorporated on the foil itself, thereby eliminating the necessity of using an outer wrapper. Candy bars are frequently packaged in this way.

It is advisable to use plain foil where large printed areas are needed. Embossed foil is recommended where fine line design is used except where the embossed patterns are such that they might blend with the printing and cause confusion.

Aluminum foil is frequently backed with waxed paper, or cement mounted or glue lined to various papers to give it additional strength. Sometimes paper waxed on both sides is used in conjunction with foil, for example, as a wrapper for sticky candies. For butter, foil is backed with glassine paper, with the foil used next to the butter. The cement employed as an adhesive is colorless, odorless and tasteless. For cheese, either plain or embossed foil is employed, generally mounted on paper. To prevent corrosion caused by certain types of cheese acting on unprotected foil, a special preparation is used as a coating for the foil which completely eliminates this danger. The coating in no way affects the qualities of the cheese.

Cement adhesives form a very firm bond between paper and foil, and are available either water soluble or not water soluble. This wrapper is effective for use as a liner or wrapper for packages where moisture resistance is necessary. Foil prepared in this manner is likewise used for labels on glassware, as well as for greeting cards and folders. Foil backed with glued paper is employed for containers for cigarettes and tea. The glue is applied in finely spaced strips.

Aluminum foil does not tarnish and remains clean and bright indefinitely. It weighs only about one-third as much as other foils, which permits a proportional increase of covering area per pound. For further particulars regarding metal foil, reference should be made to the article under that heading which appears on page 158.



"GOODBYE, SON, TAKE CARE OF YOURSELF!" . . .

Every bit of knowledge and skill you possess is wrapped up in that package trudging so bravely into a cold world.

It was right when it left your door, but will it be right on the table of its consumer? On that answer hangs your reputation.

So "trivial" a thing as a piece of paper can often decide between success or failure.

Here at KVP we specialize in food protection papers. We are helping many concerns protect their products and their profits. We might help you.

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KALAMAZOO VEGETABLE PARCHMENT CO.
PARCHMENT (KALAMAZOO COUNTY) MICHIGAN

GLAZED AND FANCY PAPERS

JUST as the theatrical producer costumes the actors in his production in order to achieve certain effects, so must the manufacturer of packaged merchandise dress his products in order to equip them to play their role in the merchandising drama of every-day business competition. Carrying the simile even further, it can be said that the container creates for the product the same effects that the costume does for the actor. Elaborate and richly ornamented costumes worn on the stage immediately convey the impression to the audience that the character which the actor intends to portray is that of a person of wealth or rank, and, in a like manner, an exquisitely designed container conveys to its audience—the buying public—the impression that the character of the contents is exclusive, expensive, exotic and highly to be desired.

The many advantages to be found in set-up paper boxes make them an ideal packaging medium for many products, of widely different characteristics. In addition to their original function of adequate protectors of products, they have been improved to the point where they may now be had in almost any conceivable shape, that are attractive, sturdy and lasting advertisements for the products they contain. No small part of the credit for the development of the set-up box from a rugged container to a thing of lasting beauty goes to the manufacturers of fancy papers who have spared neither time, effort or expense in the development of outstanding box coverings, giving the present-day box-maker and product manufacturer a selection undreamed of a few years ago.

In seeking the motif for a package design there are four major places which may be studied:

1. The use or function of the product
2. The appearance of the product
3. Its composition and physical characteristics
4. Its origin or source.

Many a cosmetic package has subtly flattered feminine hearts and vanity, and opened their purses, by its tempting offer of charm. In countless cases, inexpensive toilet sets, packaged in boxes giving the effect of expensive leathers have been eagerly bought in large numbers, the impression being conveyed to the casual observer, by the package, of the surface, texture and color of the product, and result in its immediate purchase. The box treatment may suggest rugged strength and durability on the one hand, and daintiness, fastidiousness, discrimination and delicacy on the other, depending on the nature of the product and its logical consumers. Exciting designs in color and boldness may suggest the origin of the product, giving it that desirability so necessary for products with a romantic appeal of distant lands. In fact modern containers take the salient features of a product and by skillfully blending them into the package through color and design, make that product seen, preferred and bought above others.

Immediately at the command of the manufacturer seeking a new package in which to dress up his product are literally thousands of fancy papers, which run the gamut of the rainbow in range of color. Starting with the color of the product to be packaged, and adding opposite or harmonizing colors, it is possible to utilize these new, modern and refreshing papers to make the product and the package blend into a single impression, each contributing its part of the unit impression made.

One may readily secure inspiration and a liberal education in packaging possibilities by checking over the sample books of fancy paper manufacturers. The range of colors is so wide, the printed designs are so varied in treatment and effect and the embossings are so expressive of any desired mood, past or present, that it is not a matter of searching for suitable papers; rather is it the interesting job of choosing from the largest assortment of effects available to anyone in the entire packaging field. Thus whether the immediate need is the repackaging of a staple or a luxury product, one for every-day consumption or for holidays, for the consumer's own personal use or in the nature of a gift, there is a super abundance of lovely materials to be used. And in variance with other types of packages, because of the galaxy of innumerably designed and colored papers it is easily possible to express the character of the product in a set-up box covered with a stock covering paper, without the necessity of resorting to an expensive and especially designed paper.

Consider the effects which may be created in packages out of a selection of interesting patterns such as the following: bridge and poker patterns; geometrics; florals, such as modernized metallic morning glories; juvenile designs suggestive of Old Mother Hubbard or the modern Mickey Mouse and Popeye the Sailor Man; sunsets; waves; Christmas, Mother's Day, Fourth of July, Thanskgiving, Easter and other holiday and festive occasions; clusters of balloons; stained glass effects; sailing vessels; water colors; hand painted effects; pastels; gayly colored figures representing different sports; fibre, cork and wood effects; plaids, checks and other fabrics; straw and bamboo; fine silks and satins; small overall decorated motifs; platinum, silver, bronze, gunmetal, copper and gold; solid colors, plain or embossed, dull or shiny; mother of pearl; metallic stars on plate finished backgrounds, and so on almost without number.

A large share of our population has a preference for associated articles that match, hence the present popularity of ensembles. Kitchen ware; toilet sets, for men, women and children; hat, gloves, hosiery, shoes

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EXCLUSIVE PAPERS *

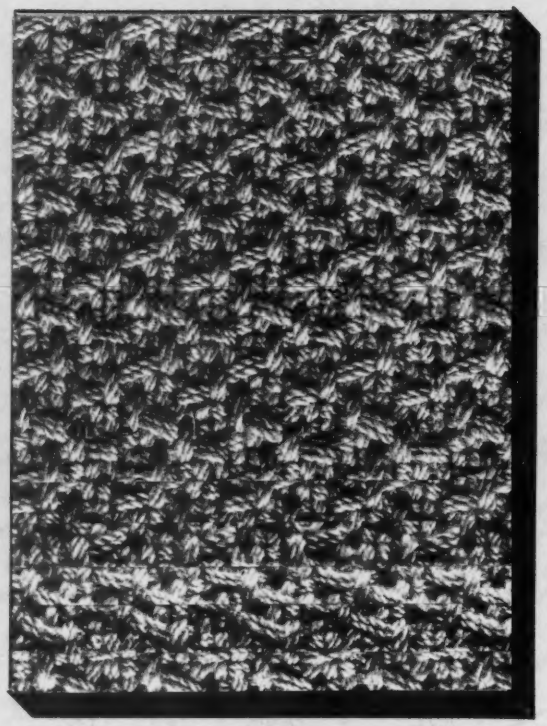
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and hand bag sets; necktie, handkerchief and hose sets; are simply suggestive of the possibilities in this direction. Since the package that matches the contents is a tribute to this love of orderliness in color, there exists a distinct opportunity for users of set-up boxes to accomplish it economically and effectively with available covering papers. From the retail dealer's viewpoint he is particularly receptive to ensemble packages, for when they are well done they enhance the appearance of his show windows and interior show cases and counters and represent larger profits per sale because of their containing several different though related items, which while unquestionably available individually, are more liable to be purchased as a unit, when packaged as an ensemble.

In addition to already existing fancy papers, the manufacturers are keenly alert to fashion trends and changes, and are constantly adding new fresh designs to assist product manufacturers to keep their merchandise constantly new and inviting to their prospective markets. Utilizing fancy paper covered set-up boxes gives the manufacturer the opportunity of making frequent changes, without a large investment, for in addition to combinations of various fancy papers, he has available combinations of papers and printing, as well as stock patterned background papers combined with labels, bearing the individual trade and product name.

If there be special characteristics about the product which require particular attention in the package the paper manufacturers are ready to offer their long experience and facilities in solving it. Metal foil papers, for example, are heat, odor, light, vermin and moisture-proof, and possess permanent brilliancy, while many of the most colorful papers are treated so that they will not smudge or run, when exposed to moisture. Full-sized work sheets are always avaiable for experimental purposes, and with an inquiring mind, some knowledge of colors and designs, which are in good taste and in harmony with contemporary fashions, in color and decoration, and a determination to keep his product constantly attractive, the package user may readily adapt the tools at hand to make his packages seen, wanted and purchased in profitable quantities.

THE FOLLOWING DEFINITIONS apply to the various types and kinds of glazed and fancy papers and to various terms used in connection with their sale and use.

Bodystock: The kind of paper, such as rag, sulphite, kraft and ground wood, which is coated, embossed, etc.

Brush Finished: Papers which after calendering are further polished in a machine which thoroughly brushes the surface of the paper.

Cloth-lined: Paper and cloth pasted and pressed together into a single sheet of material. Used for paper collars, envelopes, tags, children's books, etc.

Fancy: Papers decorated with one or more colors in mottled, speckled, streaked or blended effects, or in a definite design in any of several processes as for instance: surface printing by Kidder, wall paper or other rotary printing machine; intaglio printing; print or ink embossing; topping—i. e., application of bronze or color to the surface of the raised portion of an embossed paper; two-toned by means of friction or heat embossing; or marked by means of design rollers running against a wet surface either coated or printed.

Embossed, Friction: Papers which have a pattern pressed into them. The raised portion usually appears on the front surface.

Embossed, Heat: Papers to whose coated surface has been applied a heated roller with a design, the raised portions of which, coming in contact with the coated surface, cause a change in the shade of color.

Embossed, Print: An embossed paper which has ink in the embossing pattern.

Embossing Designs—Common: There are around 100 embossing designs commonly used, such as basket, skytogen, etc.

Embossing Designs—Exclusive: There are several hundred different embossing designs, in addition to the common ones, which have been originated or purchased by individual manufacturers who thereby own these designs exclusively. Such designs are frequently protected by registration at the United States Patent Office. Most manufacturers do not desire to copy others' designs, preferring to have exclusive designs of their own. The Glazed and Fancy Paper Manufacturers' Association, 95 State St., Springfield, Mass., maintains a registration bureau of these designs for the protection of its members and to answer inquiries from customers and users. They are glad to tell users where a particular design may be obtained.

Fabric Designs: Printed designs, in imitation of various fabrics, commonly known as "fabric prints." Embossing design in imitation of fabrics such as rep, linen and similar materials.

Flint: A coated paper, white or colored, finished by rubbing with flint stones, thereby producing a very shiny surface.

Flock: Papers coated with flock which is finely powdered wool, cotton or silk are called velour or suede and are differentiated by prefixing the name of the kind of flock used, such as cotton, silk or wool velour.

Friction Glazed: Coated papers that are finished in a friction calender which produces a highly polished surface as a result of the rotary action of a steel roller.

Gold Papers: Coated with metallic substances which look like gold.

Holly: Papers with a printed or embossed holly design in various combinations.

Intaglio Printed: Papers printed with the intaglio printing roller which has the pattern cut into the roller and transfers the ink from these depressed places to form the printed pattern on the paper. The amount of ink transferred is controlled by the depth of the cut-in portion on the roller; in this way some parts of the pattern have more or less ink and thereby produce the printed pattern in varying shades of the same color. This cannot be done with a surface printing or wall-paper machine. According to Webster this word is pronounced

in-talyo, the "tal" being articulated as in "tallow."

Leather Grain: Papers with leather grain designs which are either produced by printing or embossing. Common examples are alligator, Persian lamb, etc.

Marble Agate: Papers with a design imitating polished colored marble. The design is sometimes a printed design but true marble agate papers are made by floating coloring materials on a viscous bath. Usually a small quantity of an extract made from ox liver is mixed with the colors in order to facilitate their distribution. The design is then created by combining the colors on the surface of this bath with a wooden comb or the fingers. After the pattern has been made on this bath the floating materials are transferred by contact to the paper.

Metallics: Papers coated or covered with such metals and in such a manner as to give the luster of metals. Bronze powder and aluminum powder are used chiefly for metallic papers made by the coating process; pyroxylin mixtures are also used to make metallic coated papers. *Half Fine Metallic* papers are produced by laying patches about five inches square of a thin copper or aluminum alloy on paper which has been coated with an adhesive. The patches are allowed to overlap so as to form a continuous metallic surface and the overlapping edges are brushed to remove any surplus. *Foil* papers are produced by the application to paper of a continuous sheet of metallic foil, usually tin, aluminum, zinc or their alloys. The foil is adhered to the paper by the use of some adhesive. These are the real foil papers; imitation foil papers are made by coating processes as defined under the term tinfoil. Stainless metal foils are proof against fading, alcohol, moisture and tarnishing. They are non-corroding; will print, lithograph or off-set well, and the foil will not separate from the paper.

Mica: Papers whose coating material includes small particles of mica which give a sparkling appearance.

Moire: The name of a large class of embossing patterns which, after the manner of textiles of the same name, give a mottled or watered appearance.

Multi-Color: Papers coated, printed or originally made, with many colors.

Non-fading: Papers that resist fading when exposed to sunlight. Some colors fade more than others.

Pastel: Subdued color shades.

Pearl: The well-known and very beautiful mother-of-pearl paper. The paper is coated by a special process with certain salts and then so treated that a crystallization process occurs which develops the mother-of-pearl design. This is a French manufacturer's product. American companies produce the same results with pyroxylin.

Plate: Coated papers finished in a stack calender which produces a dull finish by means of pressure.

Printing Designs: Some designs are common designs, that is, common to the industry and obtainable from many different manufacturers. Other designs have been created or purchased by one manufacturer only, and frequently registered by them in the United States Patent Office. These are called exclusive designs. The office of the Glazed and Fancy Paper Manufacturers' Association maintains a file of members' samples for use in answering inquiries as to the source of any desired printed design.

Pyroxylin Coated: Papers that have been coated with a pyroxylin solution as a finish.

Ream: 500 sheets is commonly used instead of the 480 which we learned in school. The standard size is 20 in. × 26 in. because these papers are most frequently sold in 26 in. rolls.

Sateen: Another name for mica papers. Originated as identification and used exclusively by Hampden Glazed Paper & Card Company.

Rolls: A roll usually contains from three to four reams of the lighter weight papers, 17 lbs. to 25 lbs., heavier papers having fewer reams per roll.

Skytogen: A large class of embossing designs consisting of many small raised portions in no particular pattern.

Silver: Papers coated with metallic substances which look like silver, sometimes called aluminum argentine or platinum papers.

Suede: Another name for velour or flock paper, or clay coated uncalendered.

Surface Printed: A fancy paper on which a pattern in colors has been printed by direct transfer of ink from raised portions of printing rollers.

Swirl: Designs, both printed and embossed, which consist largely of circular lines.

Tarnishing: Discoloration of metallic papers caused by chemical action from contact or vapors.

Tinfoil: A paper coated on one or both sides to imitate various grades of tinfoil.

Tissues, Fancy: Tissue paper upon which has been printed a fancy design. Frequently, it is embossed with another design. Largely used for envelope linings.

Trade Mark Designs: Trade marks printed or embossed on the paper.

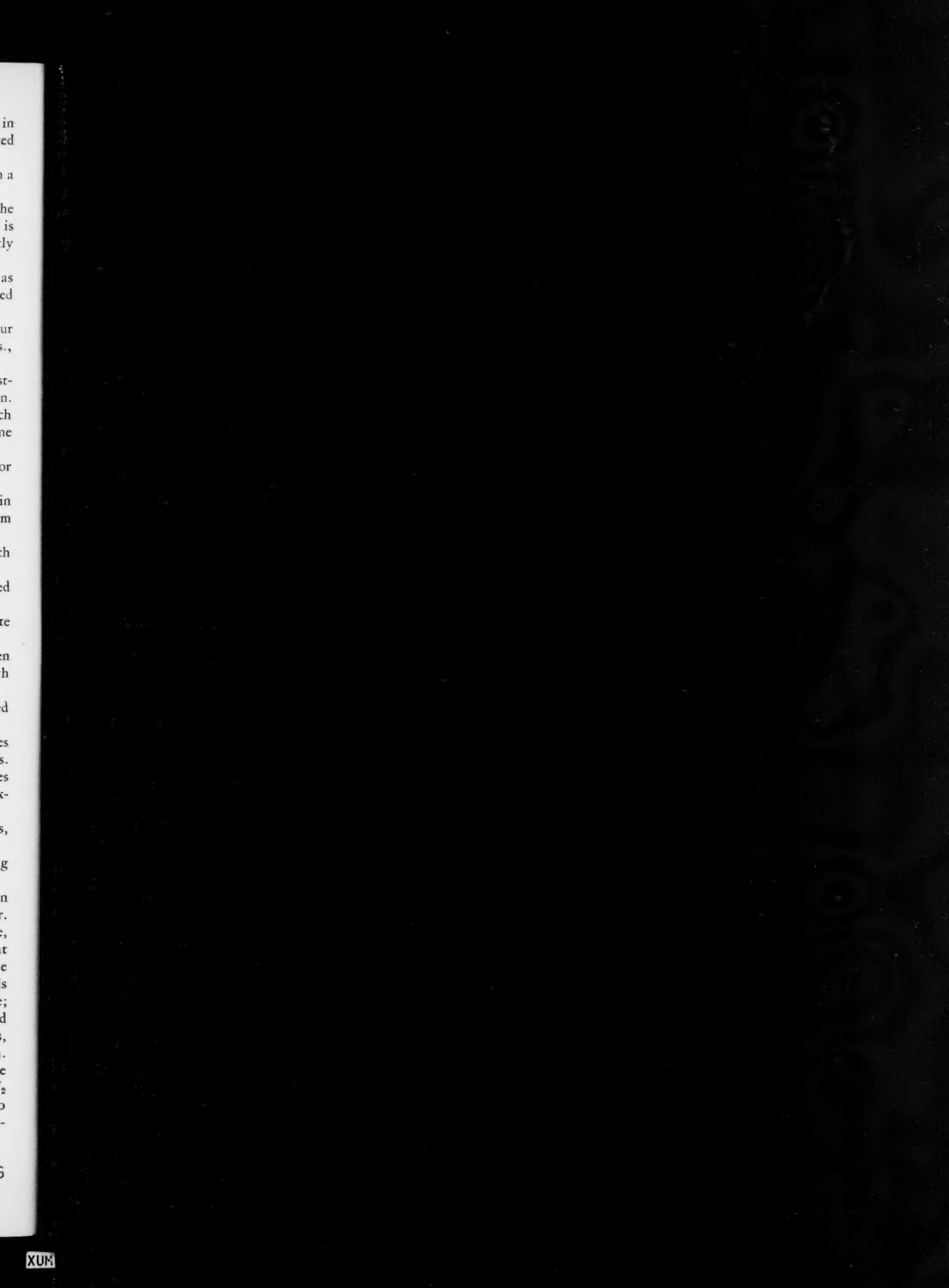
Velours: Another name for flock papers. Sometimes the term "velour" is applied to imitation leather papers.

Water-proof: Papers whose coating material includes such ingredients that the surface becomes to a large extent non-absorbent of water.

Weight: The weight per ream on a basis of 500 sheets, 20 in. × 24 in., of the bodystock.

Wood Grain: Printed papers with designs imitating various wood grains.

Considerable delay is caused by customers sending in an order for a certain number of reams of a certain color. Such an order does not state what size ream they desire, what kind of paper is wanted for a body stock or what kind of finish is needed. Orders for paper should state the quantity; whether in rolls or sheets; size of rolls or sheets; manufacturer's sample number if possible; otherwise full details regarding the color, finish and bodystock. There are many shades of most colors, hence, to say that a red is desired is not specific enough. A sample of the paper desired covers the need if the sample is large enough. This sample should be $8\frac{1}{2}$ in. × 11 in. if possible; a sample $\frac{1}{2}$ in. × 3 in. is so small that the weight of the bodystock cannot be determined with any degree of accuracy.



THE LAST WORD IN FANCY PAPERS

TWEED

KRINKLE

ECRASÉ

PLAIDS

POLKA DOTS

"CRETONNES"

KLONDIKE GOLD AND SILVER COATINGS

PYROXYLIN FINISHES

ENAMELETTE

MICA "SILKS"

CORKRUSTA

FOILSMAN

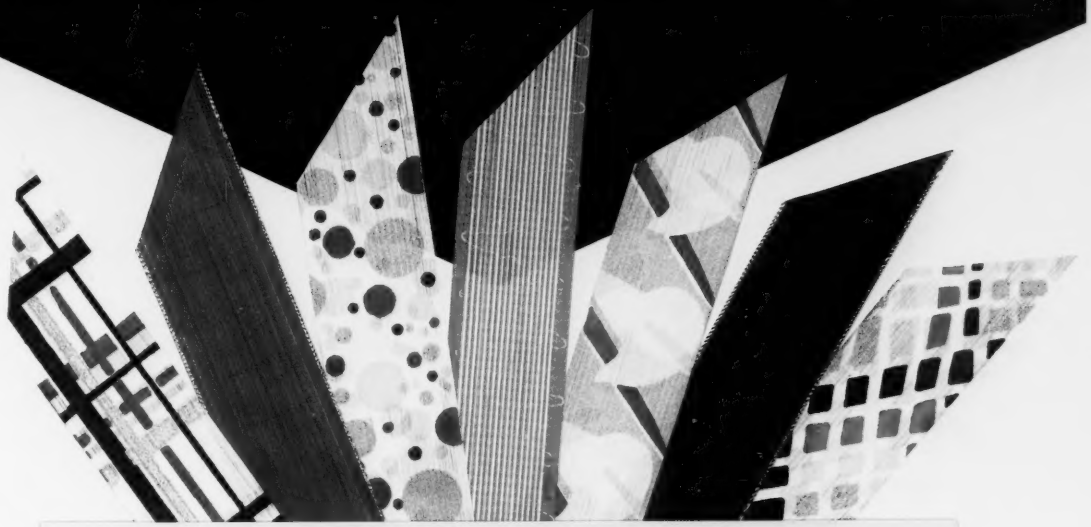
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Please send us a generous supply of Ribbonette samples of sufficient length to enable us to tie several packages. Also send complete information regarding prices, widths, styles, etc.

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_____

NAME _____

ADDRESS _____

CITY _____

SEND TO ATTENTION OF _____

We know of no better way of proving Ribbonette's ability to garner new sales, new display space and added attention than to let you see—in your own office—what Ribbonette will do to beautify your package and make it "eye-compelling."

Hence this card . . . which will bring you tying length samples, sufficient for several of your packages. Plus complete data on prices, widths, styles, etc. No obligation. Just have your secretary mail this card tonight.

RIBBONETTE DIVISION

CHICAGO PRINTED STRING COMPANY

2319 Logan Blvd., Chicago, Ill. **55 West 42nd St., N. Y. C.**

TRADE MARK OR PRIVATE DESIGN PAPERS

"A peculiar distinguishing mark, device or symbol affixed by a manufacturer, merchant or trader to his goods in order to identify them as his goods and to distinguish them from the goods manufactured, sold or dealt in by others, hence a mark, the exclusive right to the use of which is recognizable by law."—Webster.

The use of trade marks for the identification of products is as old as trading itself, and through the successive ages has taken all forms from wooden, metal and stone slabs of ancient times to the label, seal and covering or wrapping paper of the present day. In each and every case, however, the intent was relatively the same, denoting the origin of the product, and standing as an emblem for the reputation of the individual or company for fair-dealing, honesty and pride in the worth and true value of its product. The identity thus established served as a factor of safety in buying as well as something the consumer could remember easily for future supplies.

Trade mark papers may be divided into two general classifications, according to their use, although many papers serve for both:

1. Those intended primarily for covering paper boxes
2. Those used for wrappings

Those papers have kept pace with the tremendous development of all types of fancy papers, and are now available in hundreds of different kinds of stock; including plate and glazed finishes, metallics, waterproofs and cellulose; almost any color or combination of colors; either plain or embossed; reproduced by all the different processes of printing and lithography, and finished with a protective coating of varnish or lacquer.

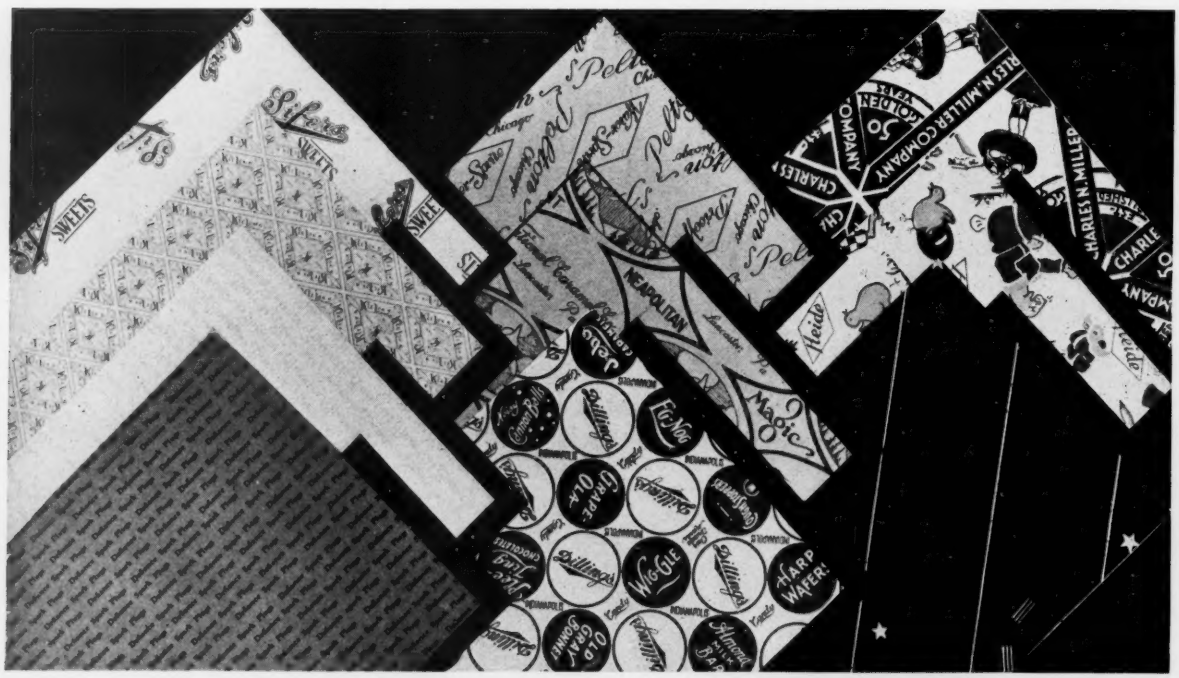
Common practice dictates that the design, whether it be straight type or a combination of type and illustration appear all over the paper, so that any piece torn from a complete roll will be representative of all of it. These over-all designs are reproduced in the following ways:

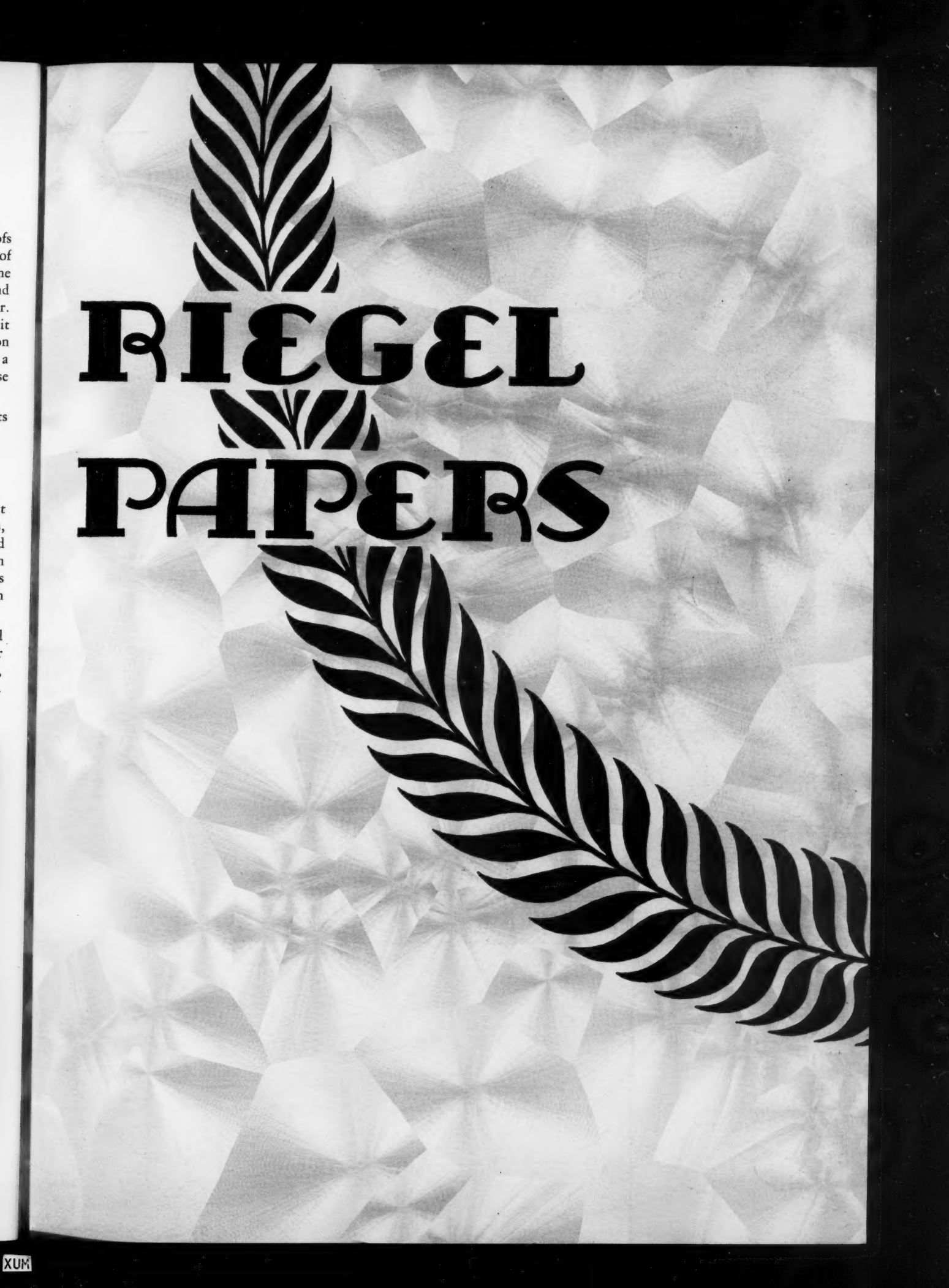
1. Incorporated in the paper in the course of its manufacture
2. Printed or lithographed on the finished paper
3. Embossed on the paper
4. Combination of printing and embossing

While the development of the trade mark or product name treatment on the paper will have wide variations, according to the product on which it is to be used and the creative ingenuity of the designer, an examination of several hundred largely used trade mark papers reveals certain common or preferred treatments, ten of which are detailed as follows:

1. One product, manufacturer's or trade name carried as the design all over the paper, on a white or colored background, consisting of straight type, line drawing of the trade mark, or a combination.

Trade mark papers utilizing several treatments, such as one name carried as an overall design, described in accompanying text




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342 Madison Avenue -:- New York

GENERAL PACKAGING PAPER RECOMMENDATIONS for STANDARD PRODUCTS

(All Recommendations Based on Similar Use by Recognized Manufacturers)

Numbers refer to Items listed below. Recommendation indicates grade used, although frequently in a weight different from sample herein.

	Packages		Bags or Envelopes	Special		Packages		Bags or Envelopes	Special
	Inner Wraps	Outer Wraps				Inner Wraps	Outer Wraps		
Bacon	1-6	8-10	—	1-2-8	Envelopes—Window	—	—	—	2-8
Bottle Wraps	—	2-8-7	—	—	Flour—Prepared	10	—	—	—
Box Covers	—	16	—	—	Frozen Confections	—	10	9	—
Box Leaves	7-8-9-16	—	—	—	Frozen Fruits	15	8	2	—
Box Lining—Fancy	9-16	—	—	—	Fruits—Dried	12	8	4	—
Greaseproof	1-5-6	—	—	—	Greeting Cards	—	—	—	1-16
Moistureproof	10–11–14	—	—	—	Ham—Whole, Cured	—	1-9	—	—
Bread	—	2-3-15	—	—	Health Foods	1-18	2-3-8-13	—	—
Bread Sticks	—	8	2	2-3-6	Ice Cream	—	6	—	—
Cakes and Cookies	—	8-3	2-3-4-8	—	Insecticides	18	7-8-13	—	—
Candy Bars	1-6-7-9	2-3-8-15	—	—	Lard	15	—	1	—
—Penny	—	6-8	—	—	Macaroni and Noodles	17	—	2-4-8	—
Candy—Boxed	9-13	2-8-16	—	—	Napkins—Paper	—	2-8-9	—	—
Bulk	—	—	—	15-19	Oleomargarine	1	—	—	—
Candy Cups	—	—	—	7	Pies	—	—	2-8	—
Cereals	14	3-13-14	—	—	Potato Chips	11-14	13-14	2-3	—
Cheese	—	6	—	—	Pretzels	10	3-6-8-13	4-8	—
Cigarette Cartons	—	12-13-14	—	—	Rice	6-10	2-8	—	—
Cocoa	—	—	4	—	Rolls—Pan	—	2-3-15	3-4-6	15
Cocoanut—Shredded	14	3-13	—	—	Shirts	—	8	8	—
Coffee—Bags or Cartons	5	—	—	2	Soap—Cake	1-6	2-8	—	—
Collars—Soft	—	—	8-9	—	Chips and Powder	12-14	13	—	—
Corrugated Padding	—	—	—	1-7	Spices	10-12-14	2-3-8-13	—	—
Cough Drops	—	2-3-13	3-4	—	Stocking Wraps	9	8	9-16	—
Crackers—Paper Containers	1-11-12	2-8-13	2-3-4-8	—	Sugar	14-18	—	—	—
Tin Containers	1-14	2-8	—	—	Tea	10-14	3-8	—	—
Dates	2-3-14	3	—	—	Tobacco—Chewing	17	2-4-8	—	—
Doughnuts	2-8	2-8-15	2-8	—	Pipe	17	2-4-8	—	—
Drugs	1-2-4-11	7-8-9-15	6-8	—	Toothpaste	—	2-8	—	—
Envelopes—Sampling	—	—	3-4-6-8	—	Window-Front Bags	—	—	—	6-8

Liberal Working Samples of any of these Papers sent without charge. Please state Name and Number of Paper, and Size of Sheet desired.

16 POPULAR RIEGEL PAPERS with PACKAGING DATA on their PHYSICAL QUALITIES

Key Number	Grade	Std. Wts. (per 500 sheet rm. of size 24x36)	Transparency	Resistance to: Grease or Oil	Resistance to: Moisture	Sealing: Heat or Glue	Other Qualities	General Use
1	Greaseproof Parchment	25-30-40-60	None	High	Slight	Glue	Grease cannot penetrate or spot	Ham and bacon wraps. Carton lining. Xmas cards. Corrugating.
2	Diafane	20-23-25	High	High	High	Both	Hard glossy surface. Not waxed	Doughnut wraps. Package wraps. Env. windows.
3	Riegelite	23-28	High	High	High	Heat	Low-cost. Pliable. Crackproof	Outer wraps and bags for food products needing moisture resistance or retention.
4	Laminated Riegeline	35-43	Fair	High	High	Glue	Inner wax layer gives moisture protection without surface wax	Carton lining. Pipe tobacco packages. Moisture-proof bags.
5	Amber Glassine	25-29	None	High	Slight	Glue	High grease resistance at low cost	Carton liners. Coffee bag lining.
6	Bleached Glassine	25-30-40-50	Slight	Fair	Slight	Glue	Cheapest bleached Glassine.	Carton lining. Low cost bags and envelopes not needing transparency.
7	Colored Glassine	25 (7 colors)	None	High	Slight	Glue	Light-proof	Corrugated padding. Bottle and package wraps.
8	Riegeline	20-25-30	High	High	Slight	Glue	Twists well. Very economical. Pliable.	Outer carton wraps and bags. Bottle wraps.
9	Embossed Glassine	25 (8 designs)	Slight	High	Slight	Glue	Decorative appeal	Bags, env. and outer wraps.
10	Bleached Glassine (Waxed 1 side)	27	Slight	High	Moderate	Both		Wax-lined bags. Carton lining.
11	Waxed Amber	29-33	Slight	High	High	Heat	High moisture resistance at low cost	Carton liner for crackers.
12	Manila Waxed Sulphite	35	Slight	Slight	Moderate	Heat		Carton lining.
13	Transp. Waxed Sulphite	24-30-34	High	Slight	Moderate	Heat		Carton wraps.
14	Waxed Bleached Glassine	29	Slight	High	High	Heat		Carton liners.
15	Printed Waxed Sulphite (Opaque)	—	Slight	Fair	Moderate	Both		Bread, carton & candy wraps.
16	Filoplume	5 designs Many colors	None	Slight	Moderate	Glue	Novelty and decorative appeal.	Box covers. Xmas cards. Counter Displays.

PAPERS OR CONTAINERS NOT SAMPLED HEREIN, BUT RECOMMENDED BELOW

17 Dry Waxed Sulphite 18 Ordinary Waxed Sulphite

KEY NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

PRINTED ON RIEGEL'S GLENWITE — SUB. 24



RIEGEL PAPERS

The use of Riegel Papers by leading manufacturers in many fields is the best evidence of their quality, adaptability and economy. There is a Riegel Paper for almost every packaging need, able to give you maximum production efficiency and all necessary technical requirements . . . at a moderate cost. Write us today.

RIEGEL PAPER CORPORATION

342 Madison Avenue -:- New York

GENERAL PACKAGING PAPER RECOMMENDATIONS for STANDARD PRODUCTS

(All Recommendations Based on Similar Use by Recognized Manufacturers)

Numbers refer to Items listed below. Recommendation indicates grade used, although frequently in a weight different from sample herein.

	Packages		Bags or Envelopes	Special		Packages		Bags or Envelopes	Special
	Inner Wraps	Outer Wraps				Inner Wraps	Outer Wraps		
Bacon	1-6	8-10	—	1-2-8	Envelopes—Window	—	—	—	2-8
Bottle Wraps	—	2-8-7	—	—	Flour—Prepared	10	—	—	—
Box Covers	—	16	—	—	Frozen Confections	—	10	9	—
Box Leaves	7-8-9-16	—	—	—	Frozen Fruits	15	8	2	—
Box Lining—Fancy	9-16	—	—	—	Fruits—Dried	12	8	4	—
Greaseproof	1-5-6	—	—	—	Greeting Cards	—	—	—	1-16
Moistureproof	10–11–14	—	—	—	Ham—Whole, Cured	—	1-9	—	—
Bread	—	2-3-15	—	—	Health Foods	1-18	2-3-8-13	—	—
Bread Sticks	—	8	2	2-3-6	Ice Cream	—	6	—	—
Cakes and Cookies	—	8-3	2-3-4-8	—	Insecticides	18	7-8-13	—	—
Candy Bars	1-6-7-9	2-3-8-15	—	—	Lard	15	—	1	—
—Penny	—	6-8	—	—	Macaroni and Noodles	17	—	2-4-8	—
Candy—Boxed	9-13	2-8-16	—	—	Napkins—Paper	—	2-8-9	—	—
Bulk	—	—	—	15-19	Oleomargarine	1	—	—	—
Candy Cups	—	—	—	7	Pies	—	—	2-8	—
Cereals	14	3-13-14	—	—	Potato Chips	11-14	13-14	2-3	—
Cheese	—	6	—	—	Pretzels	10	3-6-8-13	4-8	—
Cigarette Cartons	—	12-13-14	—	—	Rice	6-10	2-8	—	—
Cocoa	—	—	4	—	Rolls—Pan	—	2-3-15	3-4-6	15
Cocoanut—Shredded	14	3-13	—	—	Shirts	—	8	8	—
Coffee—Bags or Cartons	5	—	—	2	Soap—Cake	1-6	2-8	—	—
Collars—Soft	—	—	8-9	—	Chips and Powder	12-14	13	—	—
Corrugated Padding	—	—	—	1-7	Spices	10-12-14	2-3-8-13	—	—
Cough Drops	—	2-3-13	3-4	—	Stocking Wraps	9	8	9-16	—
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Tin Containers	1-14	2-8	—	—	Tea	10-14	3-8	—	—
Dates	2-3-14	3	—	—	Tobacco—Chewing	17	2-4-8	—	—
Doughnuts	2-8	2-8-15	2-8	—	Pipe	17	2-4-8	—	—
Drugs	1-2-4-11	7-8-9-15	6-8	—	Toothpaste	—	2-8	—	—
Envelopes—Sampling	—	—	3-4-6-8	—	Window-Front Bags	—	—	—	6-8

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9	Embossed Glassine	25 (8 designs)	Slight	High	Slight	Glue	Decorative appeal	Bags, env. and outer wraps.
10	Bleached Glassine (Waxed 1 side)	27	Slight	High	Moderate	Both	.....	Wax-lined bags. Carton lining.
11	Waxed Amber	29-33	Slight	High	High	Heat	High moisture resistance at low cost	Carton liner for crackers.
12	Manila Waxed Sulphite	35	Slight	Slight	Moderate	Heat	.....	Carton lining.
13	Transp. Waxed Sulphite	24-30-34	High	Slight	Moderate	Heat	.....	Carton wraps.
14	Waxed Bleached Glassine	29	Slight	High	High	Heat	.....	Carton liners.
15	Printed Waxed Sulphite (Opaque)	—	Slight	Fair	Moderate	Both	.....	Bread, carton & candy wraps.
16	Filoplume	5 designs Many colors	None	Slight	Moderate	Glue	Novelty and decorative appeal.	Box covers. Xmas cards. Counter Displays.

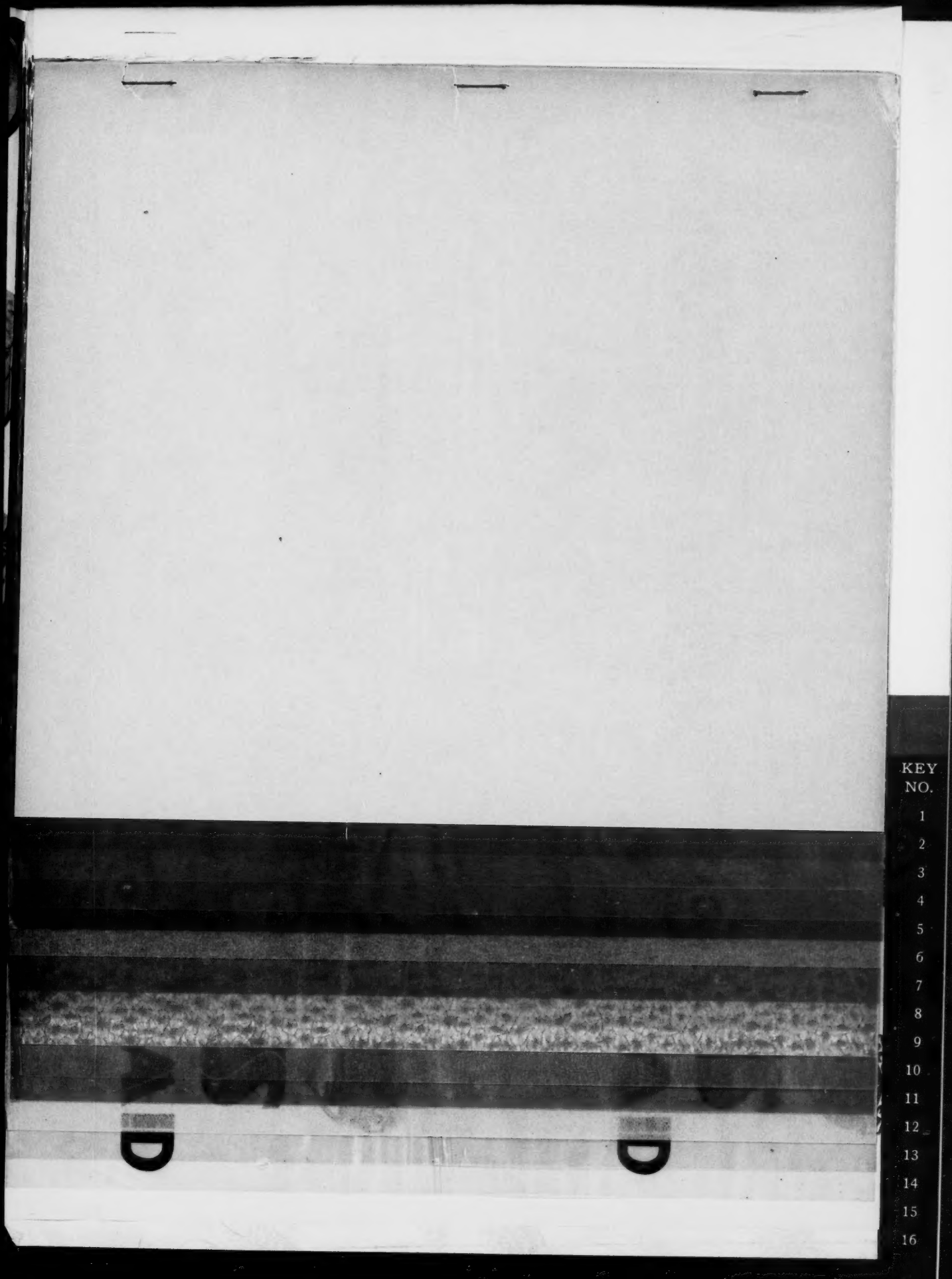
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PAPERS OR CONTAINERS NOT SAMPLED HEREIN, BUT RECOMMENDED BELOW

17 Dry Waxed Sulphite 18 Ordinary Waxed Sulphite

PRINTED ON RIEGEL'S GLENWITE — SUB. 24


XUM



XUM



There are over 130 Riegel Papers made to fit the specific packaging needs of various industries. If you're faced by some production problem, bringing out a new package, dressing up an old one, or just frankly trying to cut your packaging costs . . . write us your requirements today. To manufacturer, printer or advertising agency we offer unbiased advice based on experience and research work in many fields. There is no charge, of course.

RIEGEL

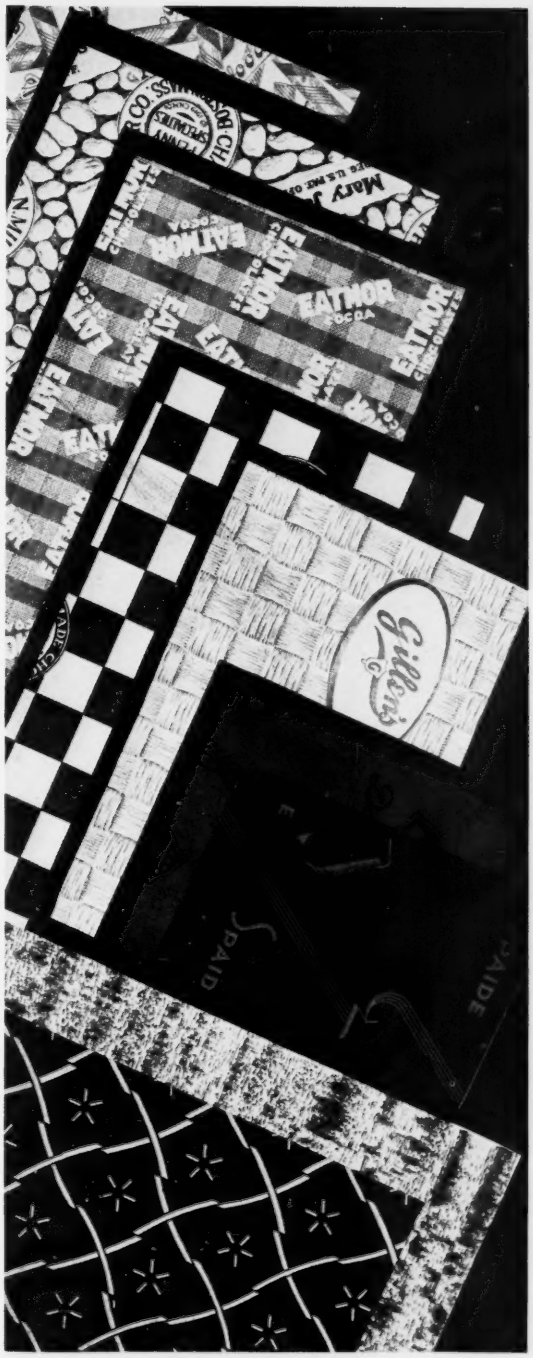
PAPER CORPORATION

342 MADISON AVE., NEW YORK

THIS IS A SAMPLE OF RIEGEL'S CRYSTALLON COVER—GREEN

Illustrative of this treatment are the Defiance Spark Plug, Eastman Kodak and Keelox trade mark papers.

2. One trade name repeated all over, but in alternate colors, represented by the Sifers Sweets paper, in which one-half of the cuts appear in bright red, against a white background, while the balance are in bright blue.
3. Two or more trade names featured in the overall design, with the maker's name, such as the Pelton of Chicago paper, which shows both the Water-Sprite and Price-Worthy trade names.
4. Several product names featured in the design, to encourage familiarity with all the company's products, as well as allowing one cover paper to serve for the packaging of the entire line. Shown are the Dilling's paper, featuring such products as Jebo Caramels, Moonshine Kisses, Ty-Con Fruit Paste, Cherry Cocktails, etc., as well as the National Caramel Company's paper showing Old Black Joe, Big Bam, Old Tyme and Banana Cube, and other popular sellers in its line.
5. Special occasion papers, such as the Hengerer's Christmas holiday foil paper, the Heide Easter paper and the 50th Golden Anniversary paper of Charles N. Miller Company.
6. Product illustration used as a background in the overall design, such as the penny peanut specialties paper used by Charles N. Miller and the Woodward's peppermint stick candy paper.
7. Trade Name superimposed over a decorative background, such as:
   a. Burlap—shown in the Gillen's paper
   b. Checkerboard—used on the Miller Made Chocolate paper
   c. Plaid—as illustrated in the Eatmor Cocoa and Chocolate paper
8. Decorative design based on suggestion within the firm name, such as the spade design used on the special Spaide paper shown.
9. One design reproduced on several different colored backgrounds or stocks, such as the papers used by Arthur S. Allen, there being six different colors used for the six papers, all appearing on brown kraft stock, giving each paper a two-color effect.
10. Embossed effects on plain, glazed or metallic papers, such as the Pears Soap paper illustrated, or a combination of printing and embossing as shown by the H & R Arms Company trade mark paper.



Backgrounds for private design papers use product illustration, reproduction of fabrics or straight decorative patterns as described in the text in paragraphs 6 to 10

While candy manufacturers have been particularly quick to grasp the opportunity of identifying their products by the use of trade mark papers, principally used as box coverings, they are also extensively used in the packaging of belts, inks, knit goods, hosiery, rubber goods, shirts, soaps and toys. The National Casket Company paper, done in a wood grain, is an unusual one, but shows the extent to which trade mark and private design papers are used. In addition to their major use as coverings for paper boxes, they are used for department store purposes, books, portfolios, even as coverings for the bristles on paint brushes, serving in each case as attractive, quick and low-cost identifiers of quality products, whose makers utilize available textures, finishes and colors to establish their trade marks in the minds of their customers in this effective way.

XUM

PROTECTOID
Transparent
PACKAGING MATERIAL











Put your product in trouble-proof packages that . .

do not shrink ★ do not stretch ★ are not affected by humidity changes ★ are not affected by temperature changes ★ are water-proof ★ are non-inflammable ★ cement easily and permanently (actually a weld) ★ do not dry out with age ★ are germ-proof ★ are grease-proof ★ have a perfect surface for multi-color printing.

Check the above list carefully. You'll see how Protectoid automatically solves the troubles that designers and manufacturers in every line have encountered with warped and loosened window containers—with torn and broken wraps on dealers' shelves and counters.

Protectoid does more than overcome the old faults of transparent packaging materials. To ingenious designers and progressive merchandisers, it opens wide the field of completely transparent rigid containers and washable molded covers.

Protectoid is a glistening, crystal-clear, perfectly transparent material available in sheets or rolls down to the tissue thinness of .00088″ and as heavy and rigid as .010″.

The representatives of Celluloid Corporation are thoroughly familiar with all types of packaging problems. Offices are maintained in all principal cities, or you may write for 16-page technical booklet, defining the broad applications of Protectoid. Address Celluloid Corporation, Dept. 7, 10 East 40th Street, New York City, sole producer of Celluloid, Lumarith and Protectoid (Trademarks Reg. U. S. Pat. Off.)

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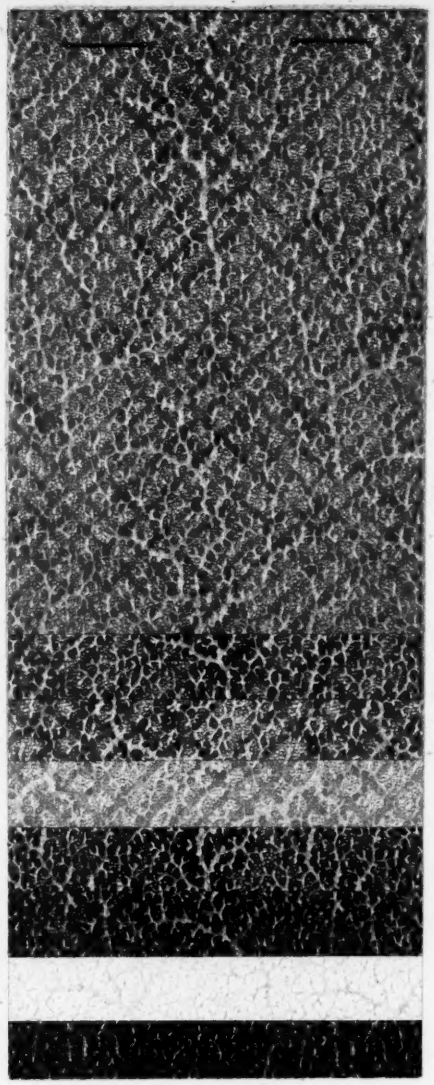
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For the Box Beautiful

Chatoye No. 57

Is a pyroxylin coated paper that is easy to print plus the maximum in eye appeal . . . with the added feature of being soil-proof.

Chatoye No. 57 is not only attractive in appearance but is made of an extra strong body stock that meets all the requirements of machine production.



57-A-30
57-A-37
57-A-32
57-A-34
57-A-35-L
57-A-31
57-A-9
57-A-36

STOCKED IN 26-INCH ROLLS • Sample working sheets gladly furnished by your merchant

DISTRIBUTED BY

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Bradner Smith & Co. . . .	Chicago, Ill.
The Chatfield Paper Corporation	Cincinnati, Ohio
The Queen City Paper Co. .	Cincinnati, Ohio
The Millcraft Paper Co. . .	Cleveland, Ohio
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Blake, Moffitt & Towne . .	Los Angeles, Calif.
The John Leslie Paper Co. .	Minneapolis, Minn.
Holyoke Coated & Printed Paper Co. . .	New York, N. Y.
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The Beveridge-Marvellum Company

MANUFACTURERS EXCLUSIVELY OF PYROXYLIN COATED PAPERS

HOLYOKE • MASSACHUSETTS

DISPLAY PAPERS

THE WINDOW DISPLAY is the most economical, versatile and effective selling force available to the average retail store owner. Many times it is his only method of reaching and influencing consumers who could and should be buying and using the merchandise he has to sell. It reaches men, women and children of all classes, and so long as window shopping continues to be one of America's favorite pastimes, it is a force on which the retailer can well capitalize.

In his never-ending search to make his show windows both attractive and sales-compelling, the retailer has nothing comparable to the variety, color and economy of papers, around which he may build his merchandise displays. While it may be truthfully said that there are few papers made expressly for window display use, those in popular favor simply being an adaptation of fancy set-up box covering papers, wall-papers, etc., it does not follow that these papers are "makeshifts" and are not well suited to the particular and peculiar needs of display. As a matter of fact, since they are created for other uses this tends to increase the varieties of papers available, and to bring them to the retail store owner at prices which are sufficiently low to encourage him to make wide and regular use of them.

Fancy papers which are best suited to the building of effective window displays include, in the order of their importance: decorated crepe papers, fancy wall-papers, metal foil papers, embossed and novelty papers and imitation leather papers.

The principal purposes which these papers serve in window displays is in the building of backgrounds of all kinds, sizes and shapes; floor coverings; pedestals; shelves; tables; plateaux; bases; racks; cylinders and tubes; boxes; fans; and drapes.

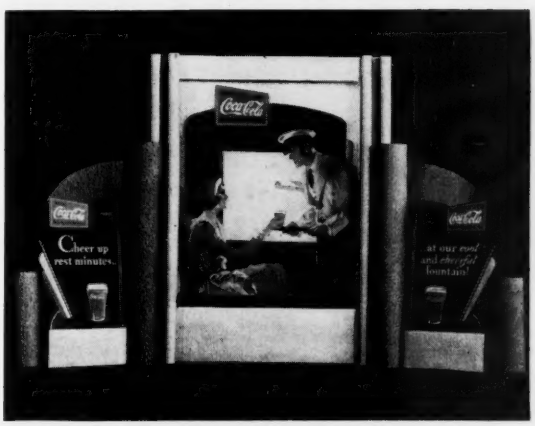
Crepe papers are first in popularity for they combine to an unusually large degree the advantages of: ease of handling, economy, wide range of colors and variety. In many respects crepe paper resembles an expensive fabric, one side having a satin-like sheen, while the other is a soft, velvety surface that makes it ideal in building a rich, lustrous background for a window display. Aided by the manufacturers of this material who have judiciously spent their time and effort showing retailers how to use crepe papers in festoons, streamers, rosettes, pom-poms, fringes, fluted and ruffled-edged trimmings, even the most inexperienced retailer can do a creditable window display job, and in the hands of an experienced window trimmer stunning effects can be produced.

Metal foil papers bring to the retail store owner the several advantages gained by the use of metal decorative materials at a fraction of their cost. Available in a wide variety of colors and tints, silver metallic papers rank first in popularity, with the gold, bronze and copper foils following in close order. They may be readily made into any shape, which they will hold well, such as center and side background panels. Their use as floor coverings and as liners for shelves and racks make them readily adaptable to the needs of window display.

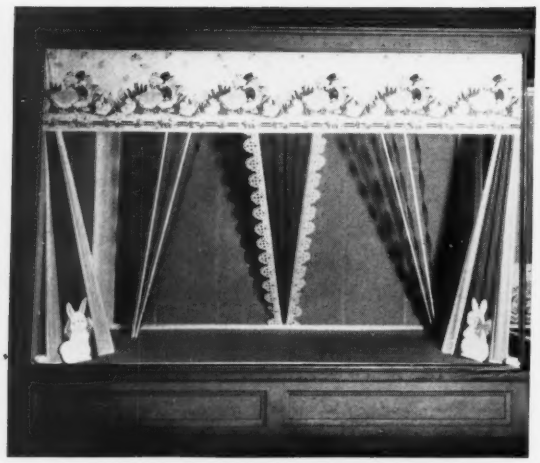
Tests have proven that color has an influence on the appearance of size and weight of an object, the lighter colors usually making a product look larger and lighter in weight while the darker colors make it look smaller and heavier. This but indicates the importance of color as a definite psychological factor in window displays and why, rather than simply using loud, bizarre colors, they must be studied and made to work with the merchandise on display, and the mental impressions which are to be made to bring the largest numbers of consumers to the

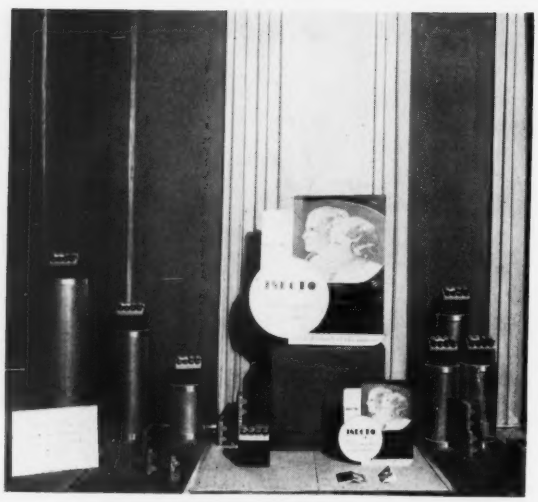
Two window displays, currently used by national advertisers, in which colored embossed papers are used to attractively display standard merchandise











buying point. While it is not imperative that a professional window trimmer be employed, nevertheless if one of the retail store personnel is in charge of planning and execution he will do well to study the effects of various colors. While strongly contrasting colors are powerful attention-arresters they may result in anything but favorable attention on the part of the passers-by who while they may momentarily look at the window display are repelled by the grotesqueness of the colors. Contrasting colors in the same family, such as several shades of blue used in one window, with a change to several shades of green in next week's window is far safer for the amateur builder of window displays.

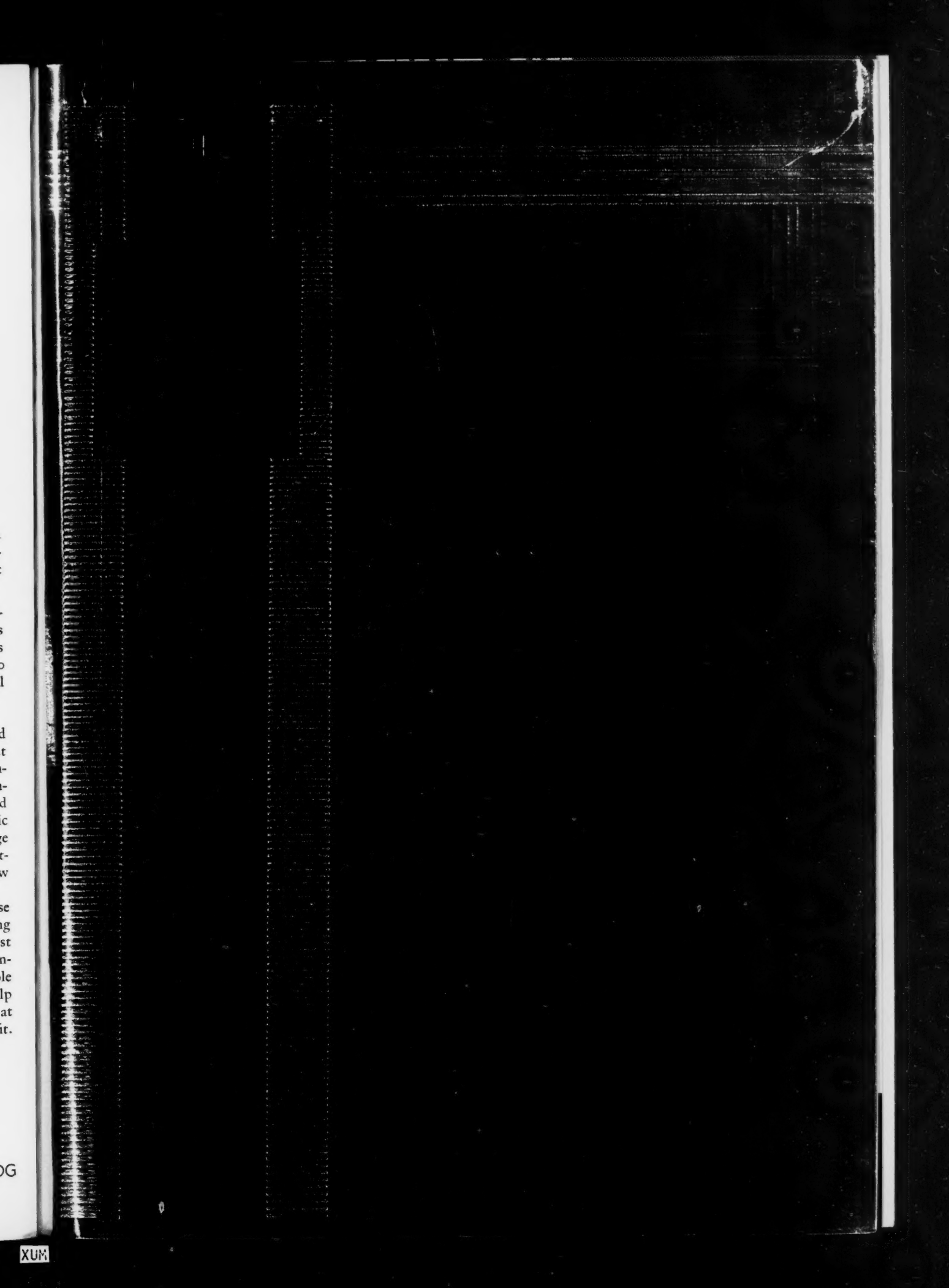
Display papers are of definite assistance to the retailer in making his window displays effectively perform their four functions:

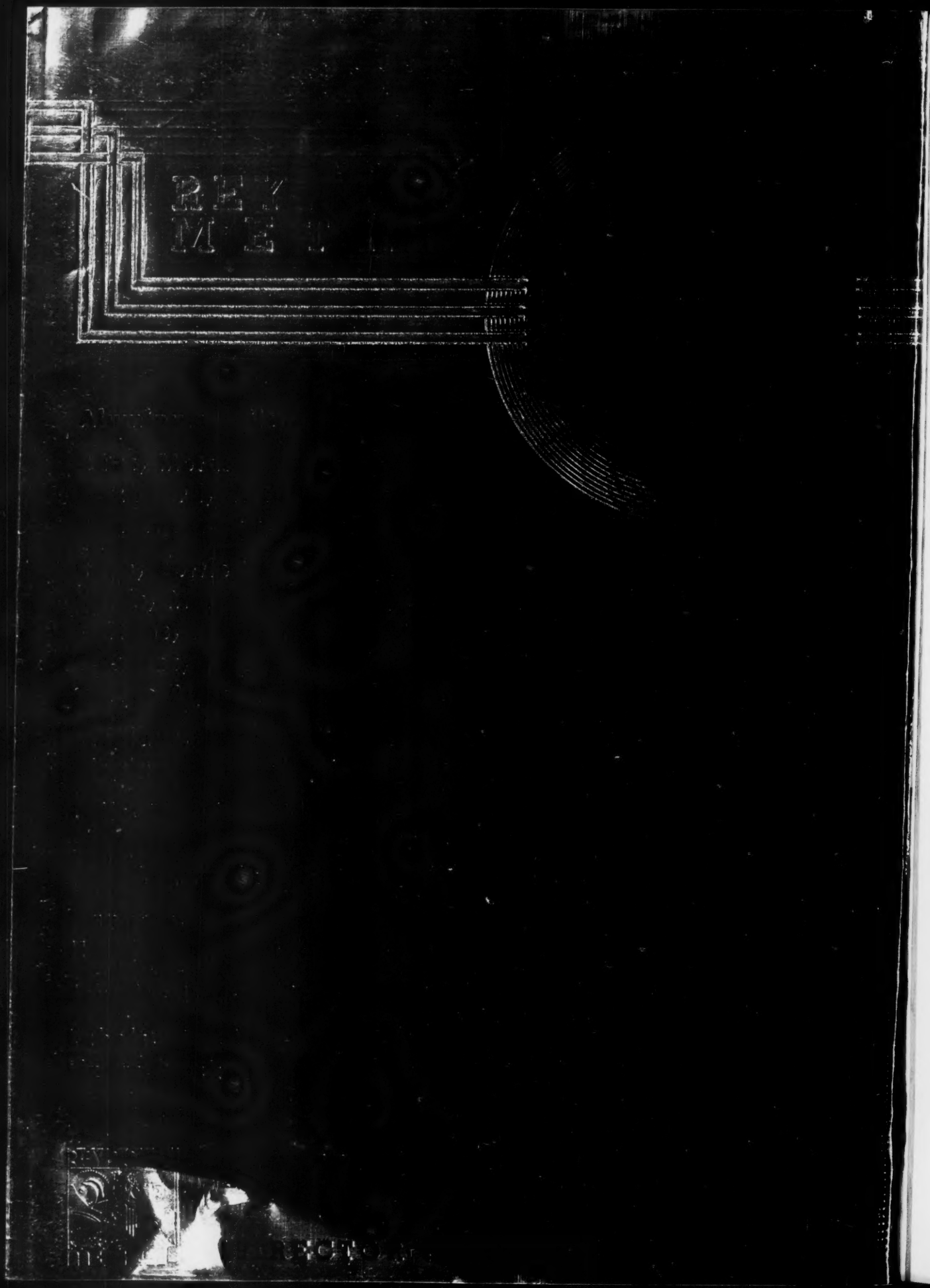
1. Attract attention, by striking smashes of color in the background—or in some form which is moving.
2. Create interest in what is offered for sale, by leading and focusing the consumer's eyes on the product.
3. Arouse desire, by showing the product in use, in a desirable atmosphere with related items, demonstrating what possession and use of the product will do for the consumer.
4. Induce immediate buying action bringing the consumer into the store, through such inducements as: limited supply offer; limited time, such as "Thursday Special"; special allowance as "$1.00 for your old coffee pot on one of the new electrical Coffee Master Percolators."

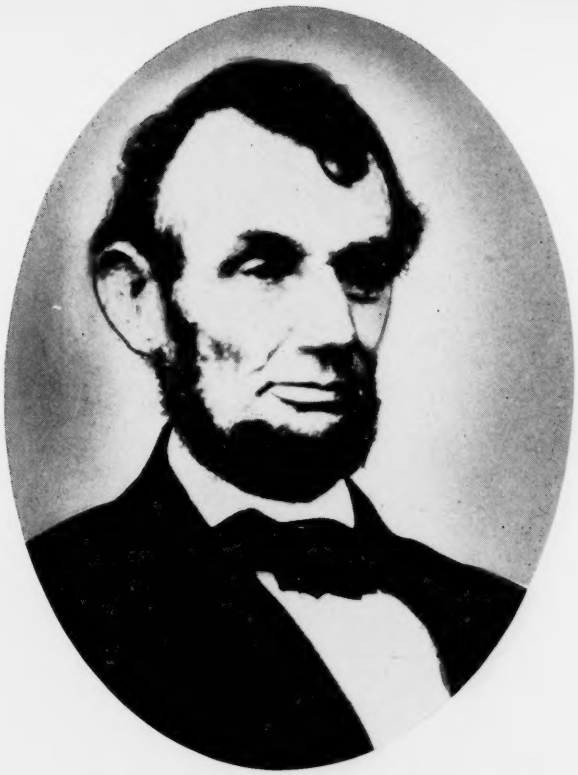
While the life of the average window display is limited from two to seven days it is necessary that during that brief period it perform a maximum selling job, by informing and reminding consumers of desirable merchandise, both necessities and luxuries; stimulating a demand for goods not ordinarily purchased; selling the public on the values available in the store; building prestige for the store in its community; and continually attracting customers by educating them to new styles and new uses for merchandise.

Display papers will not in themselves sell merchandise but by creating the proper background, stage or setting they will naturally help to show off the goods to best advantage—and in the proper atmosphere—to make consumers receptive. Through their use a most valuable sales tool is economically and effectively brought to help the retailer accomplish his task of selling goods at his point of contact with the consumer, and at a profit.

Crepe papers, offering a wide range of colors and treatments, are extensively used in making compelling window displays both for seasonal and holiday products. Note several uses of crepe papers in two upper illustrations. Suede papers, shown in lower illustration, form soft, velvety background for distinctly feminine products




PAC



WHEN LINCOLN SPOKE AT GETTYSBURG THE BUTTERFIELD-BARRY CO. was already the leader in its field





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ROYAL SATIN board provides the perfect foundation for real quality boxes. It neither warps nor shows felt marks. Ragged corners are eliminated, giving that appearance of precision which is the objective of all well conceived boxes. It is for this reason, that the recognized *quality* box manufacturers use Royal Satin exclusively.

We also specialize in high water finish and regular finish News and Chip Board. Samples of our products on request.

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BUTTERFIELD-BARRY PRODUCTS—

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THE BUTTERFIELD-BARRY COMPANY

171 Hudson Street **New York City**

METAL FOIL

A GLANCE at the shelves of any well-stocked store will reveal the fact that an increasing variety of products are turning to metal foil packaging—for protection and for sales-appeal of those products.

There are several reasons for this, but foremost is the realization that metal foil combines a number of unique protective features. When science recently discovered that light is one of the chief causes of rancidity in products, a vast new field was opened to light-proof metal foil packaging. Products like potato chips, peanuts, etc., which are quickly affected by light turned to metal foil to shield them from the rancidity-causing rays. Metal foil, being light-proof, kept them fresh and wholesome even under direct exposure to the sun's rays.

Metal foil is also extremely moisture-proof, as efficient in keeping moisture inside as outside the package. Hygroscopic products like dry milk powder when tested in metal foil packages have remained dry and uncaked in a moisture-saturated atmosphere (95–98 per cent relative humidity). Tenderized prunes on the other hand, must retain their moisture and a metal foil wrapping proved itself the best shield against moisture loss.

Metal foil, besides being light-proof and moisture-proof, is also grease-proof, odor-proof, and odor-free. These qualities led to its general use on butter, chocolate, confections, cheese, cigarettes, chewing gum, soap, yeast, etc., and to its growing use on other products.

Chief among the new products to adopt metal foil packaging are the ready-to-bake cake mixes which, containing such ingredients as yeast, nuts, sugar, raisins and flour, require a fully-protective yet low cost package. This consists of a paper-lined paperboard shell around which is sealed a printed metal foil tight wrap. Handsomely color-printed on gleaming metal, these packages are outstanding on store counters and shelves.

Another recent development is a heat-sealed metal wrapper for cigars which is rapidly gaining favor due to the better condition in which the light-proof, sealed packet keeps the tobacco, and due also to the handsome appearance of the package. The cigar band is printed directly on the wrapper which is folded and sealed around the cigar by a machine.

Progress is rapidly being made in the development of various combinations of foils with other materials, such as waxed papers, glassine, greaseproof, krafts, bonds, boards, manila and cellulose sheeting. These linings serve to reinforce the metal foil and to facilitate its fabrication into wrappers, liners, cartons, tite-wraps, heat-seal wraps, bags, labels, box covers, and displays.

Metal foil bags have won widespread acceptance for packaging potato chips, peanuts, coffee, etc. The bag is composed of metal foil lined with glassine, bond, greaseproof, or kraft papers.

Metal foil wrappers having a heat-seal lacquer coating which enables them to be securely sealed or applied in the form of a tite-wrap are proving of interest because of their protection-value and low cost, enabling them to replace more expensive types of packages.

Slight mention has been made of the display-value or eye-appeal of metal foil packaging, not because this is unimportant but because the attention-value of the gleaming metal brightly printed in colors is so obvious. Noteworthy is the progress being made in printing on metal foils, especially in the use of gravure printing and color-photography reproductions. By printing natural color-photography reproductions on labels and packages, it is now possible to show the actual product in realistic, glorified form, thereby imparting a powerful taste-appeal to the package.

Metal foil is obtainable in shiny or satin silver, gold and a wide range of colors. It can be supplied in sheets, rolls or fabricated forms, plain, embossed, unprinted or printed in one or more colors.

Following is a list of the common uses and grades of metal foil:

THE COMMON USES AND GRADES OF FOIL

Commodity	Backing	Adhesive
Box covers	Soft paper	Solid glue
Chocolate bars	No backing	....
Chewing gum	Waxed paper	Wax
Candy bars	Waxed paper	Wax
Candy mints	None (plain foil)	....
Cartons	Paper board	Asphalt or glue
Tea	With and without paper	....
Cakes	Waxed paper	Wax
Cheese	Plain or transparent paper backed	If paper backed, wax or cement
Yeast	None (plain foil)	....
Ice cream bars	Waxed Paper	Wax
Cut tobacco	Waxed paper	Wax
Cigarettes	Bond paper	Glue lined
Box covers	Bond paper	Asphalt or colorless adhesive
Box liners	Plain or paper-backed	If paper backed, glue lined
Soap	Waxed paper	Wax
Photo films	Waxed paper	Wax
Corsage stems	None (plain foil)	....
Bottlenecks	Tissue paper, if any	Cement, if tissue paper backed
Bottlecap liners	Plain or paper backed	If paper backed, colorless cement
Window decoration	Plain or paper backed	If paper backed, asphalt or glue
Butter wrappers	Paper	Cement
Meat wrappers	Waxed paper	Wax
Gift wrappers	Bond paper	Asphalt
Typewriter ribbons	Wax paper	Wax
Bonbon cups	None (plain foil)	....
Labels	Bond paper	Colorless cement
Vanity boxes	None (plain foil)	....
Milk bottle caps	None (plain foil)	....
Frozen food packages	Bond paper	Asphalt
Chocolate buds	None (plain foil)	....
Insert for transparent wrapper	Wax paper	Wax
Liners or covering for paper cans	Plain or paper backed	If paper backed, usually asphalt

The Hinkson Paper Company

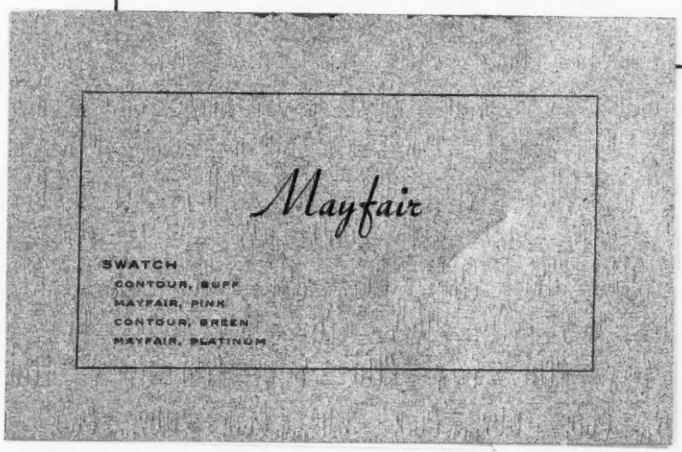
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Year after year, our sales of EXCELL-O Ribbons have increased. Year after year the number of manufacturers using these brilliant, colorful ties mounts and the quantity used by individual manufacturers increases with each successive order.

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XUM



Applications of glassine papers. Left: Bag of lacquered glassine. Tube is formed from roll, then filled; overlapping ends tucked down, and package rolled between two vertical hot plates for heat seal. Center: Bag of lacquered glassine for grease resistance, moisture protection and display of product. Right: Wrap of waxed glassine—for moisture protection and transparency at moderate cost

GLASSINE PAPER

by FLLOYD TRIGGS

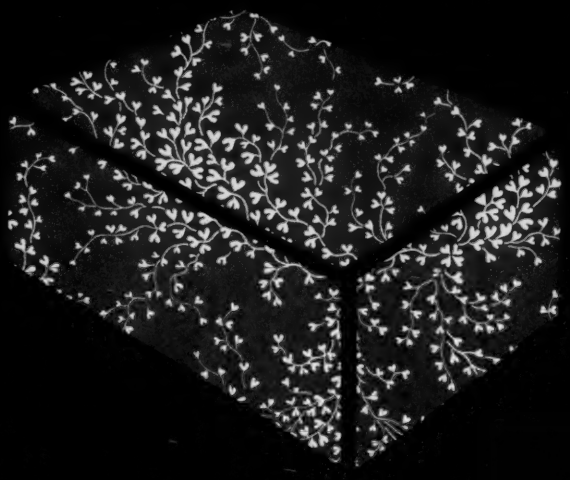
THE LAST FEW YEARS have brought revolutionary changes in the field of glassine papers. New processes have produced natural glassines of great transparency and have given to all glassines a new property of soft, pliable strength. Inasmuch as the average glassine mill and waxing plant produces well over a hundred varying grades of paper, it is simpler to treat glassine from the standpoint of general use.

From this angle most glassine papers fall in four groups: outer wraps, carton liners, bag stocks and special industrial glassines. While varying greatly in appearance, the glassines found in each group possess the common characteristics of high grease resistance, cleanliness and low cost. When waxed, all glassines become decidedly moisture-proof and self-sealing through the application of heat. Recently developed adhesives have also made it possible to glue waxed glassine in either a bag or carton wrap without the necessity of providing a dry strip in the paper for this purpose.

In the first division—outer glassine wraps—a high degree of transparency is usually found. The papers in this group are known in the trade as "Super-transparent Bleached Glassines." They are designed to work rapidly on packaging machinery, to print with facility on ordinary presses and to provide a neat, tight seal with ordinary adhesives. As a carton wrap, this group of glassines offers approximately 90 per cent of full transparency. When waxed it becomes highly moisture-proof, self-sealing, and the transparency is still further increased. Waxed transparent glassine has found an extensive market in the baking industry and elsewhere to a lesser degree as a change from waxed sulphite and other waxed papers having lower moisture protection.

From the standpoint of volume and variety of grades, the second division—carton lining glassine—is of greatest importance. In this group are found both bleached and unbleached glassines, the latter tending toward a light gray or an amber color. While transparency is of little importance, grease and air resistance are kept at a high point and the moisture-proof quality of the waxed liners is particularly developed. Many manufacturers have found it economical to have special glassine liners developed to meet the specific needs of their product and packaging machinery. Aside from these individually produced glassines, the unbleached grades find general use in cracker cartons, coffee bags and in lamination with box-board. The bleached liners are used for cereal, prepared flower, cocoanut, gelatin, candy and an endless number of other products requiring a sift-proof, sanitary, grease- or moisture-proof (if waxed) liner of low cost.

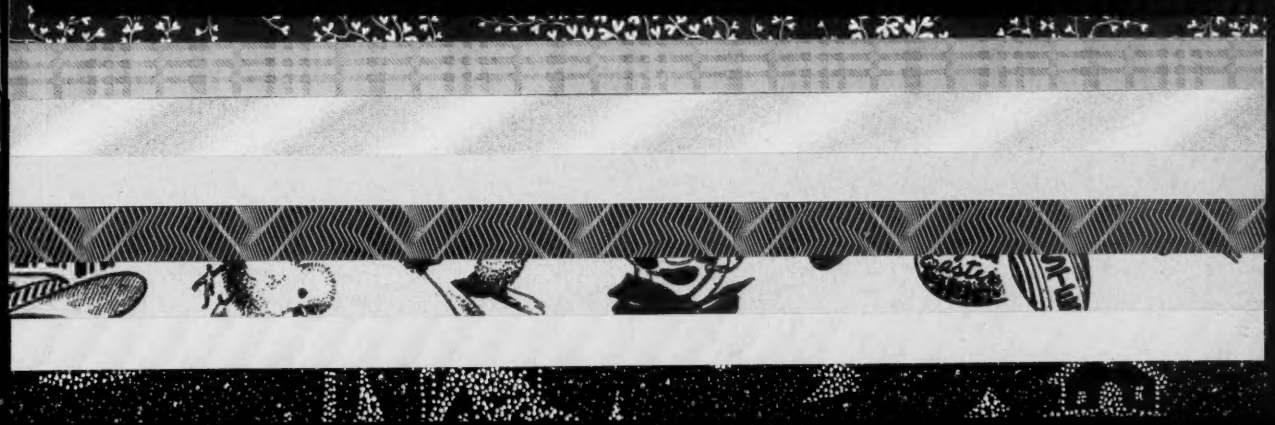
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(THIS IS SATINTEX COVER, GUNMETAL)

XUM

In the bag and envelope industries two general types of bleached glassine are prevalent. These are known as "Super-transparent Bleached Glassine" and as "Regular Bleached Glassine." In the manufacture of bag glassines, special attention is given to strength and pliability, while transparency varies with the cost of the grade used. The baking industry is perhaps the largest user of glassine bags but the number of other products so packaged—potato chips, grated cheese, collars, novelties, etc.—is legion. Present-day bag machinery has kept pace with the rapid developments of the lining and wrapping machine manufacturers and many types of glassine bags can now be made at a speed of 700 per minute. Bag glassines are made to print well with both oil and aniline inks, and the printing of these bags is normally a part of the manufacturing process. By a process of waxing on one side with a dry strip for gluing, a moisture-proof bag is produced, although special glues may be used to eliminate the dry strip if desired. Two light-weight glassines, laminated together with wax, form a special bag paper used where exceptional moisture-protection is of definite advantage in the preservation of the contained product.

The fourth division—industrial glassines—must be adopted to cover a multitude of little known but widely used special papers. The pharmaceutical field uses as a bottle wrap a special transparent glassine with a high resistance to breakage when twisted. Ball bearings are wrapped in a special heavyweight amber glassine. Ticker tape projection devices use narrow rolls of a ready-printing transparent glassine.

Many of the papers mentioned above are prepared in special colors and with embossed designs. The colored glassines make economical and attractive candy cups, and pads of colored corrugated glassine have reduced breakage and added to the appearance of many packages. In commenting on these special industrial glassines, mention should be made of lacquer-coated glassine of high shine and perfect transparency. Several papers of this type are now made and are being used commercially for bags, carton wraps, tobacco, baked goods, etc. The best lacquer-coated glassines are highly transparent, odorless, heat-sealing, glossy, moisture-proof, grease-proof and readily printable.

It is obviously difficult to treat with such a complex group of papers in a few paragraphs. The glassine mills, however, are located at central points throughout the country and employ large laboratory research staffs, the services of which are available without charge to package designers or manufacturers.



Upper left: Special type lacquered glassine. Purpose to provide transparency plus a specific degree of moisture protection that will keep product fresh but not permit sugar to melt. Lower left: An interesting triple application of glassine. Corrugated glassine liner to prevent breakage. Waxed glassine liner to keep crackers fresh. Fluted glassine cups for attractiveness and additional protection against breakage. Right: Cheese in printed plain glassine, for sanitation and grease resistance. Tobaccos in lacquered glassine for low-cost, transparent moisture-proof wrap

WAXED PAPER

by EDGAR A. CLARK

IN THE EARLY STAGES of the manufacture of waxed paper a quantity of unsized or slightly sized paper was placed in a pile and a little wax shavings laid on the topmost sheet. With a hot iron the wax was melted which penetrated the top and second sheets. Then again wax was liquefied in a pan and sheets of paper drawn through it. When larger quantities were in demand, paper in roll form was run through an iron trough containing melted wax, kept in liquid form by gas or oil burners. Mounted in the tank was a glass roll, under which the paper ran; as the paper emerged from the tank, it was run over a steel scraper, then through two squeeze rolls to remove all surplus wax. Then the paper was allowed to loosely fold on itself a short distance away and after several hours was ready to cut into sheets or wind into a roll.

From the very simple beginning described, waxed paper has developed into a complicated product so that the character of the base papers and the kind of wax used are selected very carefully and scientifically to meet the exact requirements of the product to be packaged. When automatic machines for wrapping were first introduced, papers had to be made to meet the machine requirement, for instance the first kiss wrapping machine found no paper with sufficient twisting strength in a reasonable weight that wrapped without a very big waste through torn wrappers. As other machines for wrapping various products were invented, intensive laboratory work developed papers to fully meet the requirements demanded.

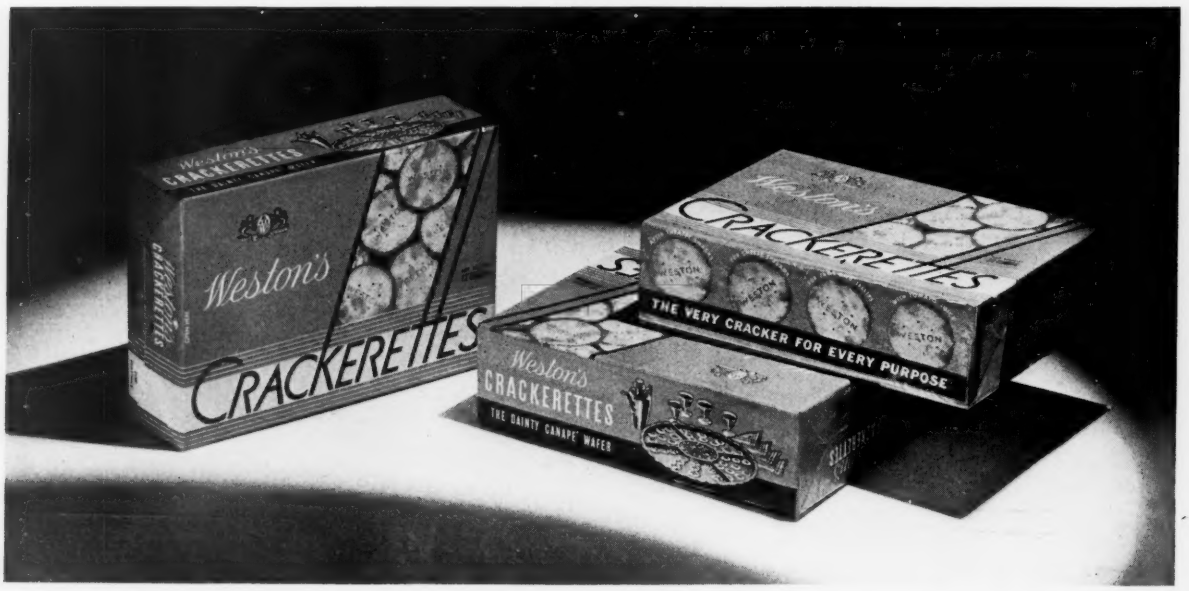
In addition to paper requirements there was the proper wax content to consider and the best method of application to meet the many different needs. The reason for the extraordinary growth of waxed paper is not hard to find. Its appearance is attractive, excellent color, high gloss, waterproof and resistant to water vapor to a high degree.

In common use we speak of waxed paper in three classes, although there are many sub-divisions of the three classes. For practical consideration these may be classified as follows:

Dry Waxed Sulphite: Impregnated with paraffine of a relatively low melting point. Carries little or no surface wax and is dry to the touch. Not entirely proof against water, vapor and air. Such a wrapper is a protection against contamination by handling or contact and, to a moderate degree, against changes in moisture content. Is not self-sealing on application of heat. Its use is indicated in many special instances.

Semi Dry Waxed: Here the wax is driven into the

A significant development in the use of waxed paper is that of a waxed tight wrap enclosing a plain paperboard shell, instead of a printed carton. The wrapper is waxed on the printed side only, leaving the back bone-dry to glue perfectly to the carton



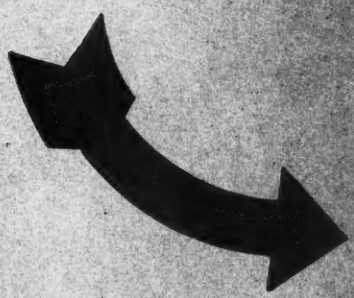


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IN

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From no other single organization can package users obtain more valuable cooperation in the enclosure of their products.

Nashua offers a comprehensive line of box coverings; coated papers, plain or embossed, in printed, novelty, trade mark and special designs; velours; metal finishes; micas, etc.

All types of waxed papers including protective wrappers for Bakery, Confectionery, and other food products. Printed or plain.

Plus a complete modern line of printed transparent cellulose wraps in all forms—

Plus stamping foils, box stays, gummed paper, gummed tape, package-sealing machines, etc.

Nashua Specialized Packaging Service includes a Package Advisory Division which cooperates with package users, or their box makers, in the planning and development of containers.

Technical facilities at Nashua include an experienced staff of technicians, equipped with a complete laboratory; competent to aid you in both experimental and advisory capacities.

Nashua Merchandising Counsel deals with basic marketing problems; maintains a staff of artists to create new designs or to assist in modernizing present packages.

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NASHUA, NEW HAMPSHIRE



Du-Tone's broad line is today even broader, even more all-inclusive. Today, no matter what the shade of your wrap, the color of your label or the pattern of your package . . . you will find a Du-Tone ribbon perfectly suited to match or contrast with it and to bring that added eye appeal that spells sales.

Yet the low cost of Du-Tone ribbons . . . due to our immense output and labor-saving machinery . . . will surprise you. Send for tying length samples of the shades or patterns you desire. Available in combinations of transparent or colored centers, silk with metallized edge, or in printed ribbons of Cellophane in varied designs. Widths up to 5", as narrow as ¼". The triple edge imparts unusual strength to Du-Tone Ribbons. Write today for samples.

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Wax coated stock was used for this wrapper to keep the naptha content intact and to assure tight sealing of the package. The design—a modern version of the soap bar wrapper which has been unchanged in the past 35 years—was successfully reproduced (printed) as shown

fibres of the sheet and there is also a slight surface coating. Often used in delicatessen, meat and grocery shops and in industries not related to foods.

Waxed Sulphite: A heavier coating of paraffine with correspondingly greater resistance to the passage of air and of water vapor. It is self-sealing on application of heat. Used as a wrapper for many products, but especially useful as a liner or divider in package goods.

Waxed Glassine: Is lightly and also heavily coated with paraffine, usually of high melting point and like waxed sulphite is odor-proof, insect-proof, etc. Waxed glassine is also made in an endless variety of grades and weights and serves various purposes.

Waxed paper completely changed the bread industry, because it was found bread sealed in waxed paper could be baked in central bakeries and distributed *oven fresh* throughout large areas. Not that any wax paper would allow this, but the proper weight base stock and the correct amount of wax coating allowed the bread to breathe—for yeast in bread does not entirely stop acting after the bread is baked. In good bread there is a secondary yeast action which results in giving off certain gases and moisture content which, if confined, hastens the formation of mold and chemical reactions.

Waxed paper that allows bread to breathe is of great value; it duplicates nature, in that it has the properties of the natural outer coverings of some fruits. While it is possible to make a waxed paper resistant to moisture, the fact that paper can be waxed to allow moisture to pass through is a highly valuable property.

Waxed paper has been exceptionally valuable in the baking industry; it is also equally valuable in the confectionery, soap, florist, tobacco, medical and many other lines of manufactured products.

With the introduction of electric refrigeration, which is a dry cold, wax paper is more and more used to prevent loss of moisture due to the cold dry temperature of electric refrigeration. Electric refrigeration in conjunction with waxed paper gives nearly perfect preservation, also preventing flavor contamination from foods in the ice chest and excluding all injurious atmospheric and other influences.

The development of opaque waxed paper is the most important progression that has occured in recent years and it deserves attention from all who package. Opaqueness has enhanced the advertising value of waxed paper and especially is this true when the paper has been coated with colored pigments and then waxed. Such papers have a definite purity of hue and brightness, and offer a brilliant contrast to printed matter on the wrap.

Research has shown that opaque waxed papers, that immediately became popular through their superior appearance, are effective in retarding harmful changes in many products accruing from light rays. In other words, opaque waxed paper is penetrated less by light rays than ordinary waxed paper or a white transparent paper and that colored opaque waxed papers are considerably superior to white opaque waxed papers.

Just as colored glass bottles are a protection from light rays, opaque waxed papers, especially if colored, advantageously replace ordinary waxed papers or transparent materials in packaging products that may turn rancid, lose flavor or color or otherwise be affected by exposure to light. Waxed paper is also made transparent, when it is desirable that the printed matter on the container be clearly visible.

A development that reduces cost in carton packaging and at the same time retaining or excluding moisture to suit the product is becoming extensively used. Formerly cartons were purchased printed, then product filled and the carton wrapped in waxed paper and hot sealed—fusing the waxed surfaces together. Today a plain unprinted carton is used: the waxed paper is printed in a continuous roll, then a hard, glossy coat of wax is applied on the printed side. When the waxed paper is used for wrapping the filled carton, each wrapper is automatically cut off from roll and accurately registered by an electric eye device. As the wrapper is cut it is fed over a glue roll that applies a thin even coat of the adhesive to the unwaxed surface. This method gives the finished package a smooth, glossy appearance, a prepossessing and permanent product identification, sift-proof and insect-proof and a lower cost per carton.

STYLE *and* PROTECTION







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PAPERGLAS

WESTFIELD RIVER PAPER COMPANY, INC.
RUSSELL, MASSACHUSETTS

GENUINE VEGETABLE PARCHMENT

GENUINE VEGETABLE PARCHMENT has been used for the protection of foods for a quarter of a century. Chief among the users are:

Meat Packers: Fresh meats, such as pork loins, beef tenderloins, pork sausage, etc., need protective wrappings that will not disintegrate in contact with the meat juices. Genuine vegetable parchment is "stronger wet than dry," is not completely airproof, and is the ideal wrapper for these products. Smoked meats and cooked hams are wrapped in genuine vegetable parchment, not only because it is snowy white in color, but because it is grease-resistant. Being soft, pliable, and strong, parchment does a "better job of wrapping." Lard and shortenings in cartons or boxes are protected in genuine vegetable parchment to avoid grease leaking through the container. It folds without breaking at the corners and is highly satisfactory as a wrapping material, as evidenced by the fact of its having been used for years for these products.

Crinkled genuine vegetable parchment is a sheet of parchment which has been creped or crinkled, to increase its strength. Among its uses in the packing house is that of liners for boiled ham retainers, the users claiming that a better yield is obtained, there is less labor of cleaning the molds and the molds do not have to be re-tinned as frequently for they do not pit quite so badly as unlined molds.

Fish Packers: The fishing industry uses genuine vegetable parchment for fresh, frozen and smoked fish. The reason is obvious, for there is need for a sheet that will stand moisture, brine and salt and is oil and grease resistant, and genuine vegetable parchment fully meets those specifications. Some of the packers use parchment waxed on one or two sides, for frozen fillets, because of the better insulating value and the fact that the waxed surface prevents the paper from sticking to the fish during freezing and in transit.

Poultry Packers: The poultry packer uses genuine vegetable parchment because it makes him money on his birds; for genuine vegetable parchment will definitely prevent freezer burn, discolorations and bruises, any one of which will make the packer take a discount of $^1/_2$ to 2 cents per pound. The reason is that genuine vegetable parchment absorbs the moisture from the body and the viscera drawn out of the birds during freezing, thus preventing the formation of ice particles on the skin. The poultry packer not only uses genuine vegetable parchment to wrap each bird, but he lines his boxes with the same sheet. The fact that he wraps each bird in parchment enables him to pack both white and yellow birds in the same box, and thus bring about a material saving in labor.

Lard and Shortening Manufacturers: This industry uses genuine vegetable parchment in a number of ways. The first use is for liners and circles on tubs and tins. Then when the cartons come into use, genuine vegetable parchment in sheets for Peters style cartons, or made into bags for end opening cartons, is the universal package liner. And it is equally successful in the newer package idea of shipping fifty pounds in wood or fiber boxes, lined with parchment.

Dairy Industry: Butter has been wrapped in genuine vegetable parchment for many years, and there is no other sheet on the market that will fully protect and deliver the product to the refrigerator in the home as well as parchment. It resists the moisture and salt, and the freedom from odor or taste places it at the top of the list for butter protection. And it protects enemies from without as well as from within, for parchment will keep foreign odors away from butter. It is used as wrappers for prints and rolls, and as liners and circles for tubs and tierces. Several creameries boil sheets of parchment in water or brine to kill mold spores that may have formed while the paper is in storage.

Ice cream wrapped in genuine vegetable parchment is fully protected from contamination. No shreds of paper to pull off, for parchment just won't go to pieces when it's wet. And the delicate snow-white color is typical of the delicately flavored, 100 per cent American product within. The new idea adopted by Borden, of having the little individual cubes or cones of ice cream for sodas, includes the wrapping of the individual portions in genuine vegetable parchment.

Vegetable Industry: Lettuce, broccoli, celery, spinach and other vegetables, shipped in a more or less moist condition, are wrapped in genuine vegetable parchment for protection. The crates or boxes in which they are shipped are lined with parchment to hold the contents in prime condition.

Printing: Special inks are used in the printing of genuine vegetable parchment for the printing must not offset when used on greasy, wet or briny foods. The inks must stand the boiling test, for if you will refer back to the dairy industry, you will find that most of the dairies boil their butter wrappers and liners before they use them. The majority of the wrappers are printed. Printed wrappers are probably one of the best mediums of advertising, for the carton of butter with its printed wrapper enclosing the print, goes right to the home and is looked at many times daily by the one who does most of the buying.

The parchment industry maintains a research department to work out special problems of packaging for their customers. Likewise the manufacturers maintain art departments to assist in the suggestion of special designs for the various items of their business.

XUM

TRANSPARENT WRAPPINGS

by HAROLD A. LEVEY

WHILE all of us can recall seeing thin gelatin sheeting on packages as far back as we can remember, it was only until a year or so before the World War that we saw a completely transparent form of cellulose sheeting. The nature of the demand for the transparent wrapping fairly parallels that of the glass container in accordance with such phrases as "See what you are buying." However, it offers decorative possibilities not within the scope of glass container. Its adaptability, due to its extremely flexible nature, makes this possible. Further, it may be colored, embossed, printed upon and satisfactorily bonded together.

Cellulose and Cellulose Derivatives

The first type of transparent cellulose sheeting which met with ready acceptance as a general wrapping was composed of viscose or regenerated cellulose.[1,2] This material is completely transparent and colorless, is slightly hygroscopic, neither water nor moisture-proof, non-inflammable (but burns), grease- and oil-proof, and is the lowest priced completely transparent sheeting obtainable on today's market. It is affected to a degree by differences in atmospheric conditions, more particularly humidity changes It can be obtained in colors and embossed designs. The non-moisture-proof form is not used as a food wrapping in direct contact with food products possessing a high moisture content. Its most extensive application is that of an outer wrapping for nearly every type of commodity of such size as can be readily enclosed within its standard size of sheet dimensions, and the price and profit margin of the article permitting its use. Its relatively low price, together with its ease of sealing and workability in automatic equipment, has extended its use to almost limitless fields.

A relatively new type of sheeting which has recently found its place on the American market as a general wrapping is that which is composed of cellulose acetate.[3,4,5] This material is inherently water-proof, and oil- and grease-proof. It possesses an unusually high degree of clarity, brilliancy and surface sheen. It is practically unaffected by atmospheric conditions and humidity changes. It is not attacked by insects nor mold, can be obtained in colors, is readily printed upon and embossed, as well as quickly cemented. Its properties can be so varied that the same material can be made into sheeting which has striking rigidity, or can be prepared so that it possesses the flexibility of rubber sheeting. In addition, these conditions can be closely maintained through wide humidity and temperature changes. Its moisture transmission values can be controlled within definite limits, so that it may be readily applied to almost any type of wrapping, including direct contact with food products which it encloses. As it is not affected by humidity changes, it is effectively used as a covering for the windows of envelopes and window cartons and display containers.

In order to overcome some of the shortcomings of the viscose or regenerated cellulose sheeting, more particularly to render it moisture-proof, this type of cellulose sheeting is coated with a thin film formed from a nitrocellulose lacquer containing resins, plasticizers and waxes.[6,7] The resulting sheet is essentially moisture-, oil- and grease-proof, of greater strength and increased inflammability. While it is not completely water-proof, it is highly resistant to the transmission or penetration of moisture. This treatment reduces its sensitiveness to humidity changes and increases its resistance to the attack of insects and the growth of mold.

Because of the moisture resistance offered by this coating, this type of sheeting is invariably used where the wrapping must come into direct contact with the food products, and especially when it is desired that the original moisture content in that food or similar commodity be retained for a fairly long time. This applies particularly to such materials as confections, baked foods and tobacco products, whose moisture content must not be lost; while crackers and related materials must not take up moisture. Even though this type of sheeting costs nearly fifty per cent more than the uncoated sheet, the volume used of this coated sheeting is about three times that of the uncoated sheet. Obviously, its resistance to moisture, as well as its ability to maintain the moisture content of wrapped materials in almost the same state as when they left the manufacturer, appears to more than offset any increased cost that may be incurred.

All of the above types of sheeting are practically odorless and tasteless, and can be formed into an almost gas-tight enclosure. One of these[7] types possesses sufficient thermoplastic properties to make a satisfactory "heat seal" to bond sheet to sheet by the application of a moderate amount of heat and pressure. This property enables these types of sheetings to form a package which will retain nearly all of the original odor and flavor of the contained materials.

---

[1] Cellophane; Du Pont Cellophane Company, New York.
[2] Sylphrap; Sylvania Industrial Corporation, New York.
[3] Inceloid; American Products Manufacturing Company, New Orleans, La.
[4] Protectoid; Celluloid Corporation, Newark, N. J.
[5] Kodapak; Eastman Kodak Company, Rochester, N. Y.
[6] Moisture-proof Cellophane; Du Pont Cellophane Company, New York, N. Y.
[7] Moisture-proof Sylphrap; Sylvania Industrial Corporation, New York, N. Y.


METAL INE
LEATHER

METALINE LEATHER

BOX PAPER - 222

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A new development in transparent sheeting[7] has recently appeared on this market which possesses the property of filtering out the ultra violet rays or active elements of daylight. These rays are largely responsible for the spoilage of many forms of food products and cosmetics, which prematurely become rancid or lose their odor, flavor or color when exposed to natural light. This form of sheeting is clear and transparent and is obtainable in the standard form of viscose sheeting, as well as the coated or moisture-proof product. Where a greater degree of opacity of these detrimental light rays is desired, this type of sheeting is available in an amber shade, and will preserve such wrapped products for a longer period than the above described colorless sheeting.

Resin-Treated Papers

Papers have not yet been prepared in modified or treated form which have resulted in a sheet that could be considered completely transparent, that is a transparency comparable with that of water or glass, or which when held up to the light would not diffuse the light source. As a result, these types of papers appear in varying degrees of translucency. Properties and uses of the various types of wet and dry waxed paper, glassines, waxed glassines, vegetable parchments and the like are of course already well known to the packaging industry. There are, however, types of resin-treated papers,[8,9] which have an unusually high degree of translucency approaching transparency. They have good moisture transmission resistance, and are practically oil- and grease-proof for the limited period of time for which they are used as a food wrapping. Like all treated papers, as well as all the other sheeting mentioned in this article, these last-named products are air-tight and dust-tight. They are immune from insects and mold growths. Their inflammability is slightly greater than that of the untreated paper. The cost of this form is intermediate between that of a good grade of waxed glassine and regular viscose sheeting.

Rubber Derivative Sheetings

An innovation in transparent sheeting has recently made its appearance. It is not composed of a cellulosic material, but is made from a rubber derivative. One form is composed of rubber chloride[10] and the other rubber hydrochloride.[11] These new forms of completely transparent sheeting are highly moisture transmission resistant. They are slightly plastic, but not elastic. Their characteristic difference from the cellulosic type of transparent sheeting is, that while their initial resistance to tear is less than the cellulosic type, they offer substantially greater resistance to a tear once started. Another variety of sheeting is an exceedingly plastic film[12] composed of rubber and wax which can be permanently stretched to several times its original dimensions. While this film is translucent, it has several properties in common with the above types. All of these forms can be hot sealed.

Modern trends have been decidedly in the direction of the completely transparent wrapping, and of these there is a preponderance of favor toward the moisture-proofed types, notwithstanding their substantial increase in cost. These situations indicate clearly that the desideratum is to make the wrapped object completely visible as well as to reach the consumer in practically the same condition as when it left the manufacturer. Such conditions demand a form of sheeting, which shall itself be invisible and at the same time possess a high order of protective value. It must include such properties as water-, oil- and grease-proofness, and dust- and air-proofness, a high resistance to moisture transmission, good tensile strength and flexure value, together with a retention of these properties over a substantial period of time. It must be available in colors, capable of being readily printed upon and embossed, easily and quickly cemented, as well as being readily adapted for packaging machine (automatic or semi-automatic) operation.

While the moisture-proof viscose sheetings have, in general, most of these desirable properties, they have, however, many shortcomings. They are a laminated composite sheet, the surface coating which renders them moisture-proof having a thickness of only one ten thousandth inch. While moisture transmission resistant, these sheetings are not completely water-proof. On immersion, or sufficiently long contact with water, the thin protective coating will become detached, thus becoming ineffective for the purpose desired.

Probably the ultimate line of development will consist of a homogeneous sheet made from a base of cellulose acetate, or some similar derivative of cellulose, properly modified or treated to render it moisture transmission resistant. Cellulose acetate and related derivatives such as the cellulose ethers are inherently water-proof. When their resistance to moisture transmission is improved (as the resulting sheet is homogeneous throughout), and not subject to humidity changes, there will be no formation of wrinkles, cloudiness, etc. This formation is particularly noticeable where both the coated and uncoated viscose sheetings are used as window coverings for cartons, envelopes and the like. The cellulose derivative type of sheeting, in addition to possessing a high degree of transparency, is very slow burning. Stability and longevity, freedom from discoloration and resistance to the disintegrating effects of the elements are properties of substantial worth possessed by this type. The cost must be low, in order that it may be used to wrap even the lowest priced articles. However, this usually occurs with a large market and mass production results.

Relief effects are now obtained by embossing and printing which in many cases have eliminated at least one wrapping and resulted in a package of more attractive design and greater utility. Owing to the complete transparency of this sheeting, only the printing is visible and appears to be a part of the object wrapped.

[8] S. W. Weis, 182 No. La Salle St., Chicago, Ill.
[9] Transpara; Transpara Paper Company, Rhinelander, Wis.
[10] Pliofilm; Goodyear Tire & Rubber Company, Akron, Ohio.
[11] Marbofilm; Marbo Products Corporation, 469 E. Ohio St., Chicago, Ill.
[12] Parafilm; Marathon Paper Mills, Rothschild, Wis.


kidskin
coronation cloth
chrome silver
cross stitch
claray
starsheen
HAZEN
HOLYOKE

Gummed transparent sheeting is now available, both clear and in colors. It can also be supplied printed upon and embossed. Printed and cut-to-shape seals and closures are now fabricated which effectively serve the purpose of sealing and labeling or marking such packages. It also designates the strategic point at which the wrapping might be most readily opened. The clear and colored transparent gummed tape is used in many manually wrapped packages as a time saver and results in a more striking wrapping. The clear, colorless, transparent gummed tape is by far the best product for making an invisible repair on torn paper, fabric or other materials.

As transparent sheeting possesses unusual strength for its thickness, the sealing of packages so wrapped and sealed can be opened only with difficulty. To overcome this situation some manufacturers leave a part of one flap turned up at the closure. Others enclose a small strip or narrow ribbon of a thicker variety of the sheeting, in another color which projects out at the joint in the wrapping.

As binding tape, transparent cellulose sheeting finds use when folded into a tube with lapped joint and then pressed flat. It may be obtained clear or in colors, as well as with an inserted core of other materials such as metallic foils and paper or fabric that may contain printed matter which shows through the transparency.

APPLICATION OF TRANSPARENT CELLULOSE



Application of transparent cellulose. Wrapping with transparent cellulose or similar materials may be classified under three general divisions. These are divided as follows: Direct, direct with accessories and indirect, the applications of which may be seen in the accompanying illustrations. In each case the wrapping material may be plain or moistureproof, printed or unprinted or colored transparent cellulose may be used, depending upon the desires of the user. In some cases, there is a tendency to assume that a particular product can use only one of the general types of wraps. This is not always the case, as, for example, in the baking industry cakes are wrapped directly in transparent cellulose, also with the use of accessories and then overwrapped. Packages shown are by courtesy of Sylvania Industrial Corporation

XUM

PRINTED TRANSPARENT CELLULOSE WRAPS

by B. W. MARTIN

PRINTING on transparent cellulose was first done on a practical commercial basis only a little more than ten years ago. Progress in the art has been very rapid, however, because printed film can be used on many products where unprinted film would be either inadequate or unsuitable.

Two major methods are in use today: Letterpress or relief printing, done with oil inks; gravure, or intaglio printing, which employs inks of the lacquer type. Each has its advantages for particular applications. A brief description of each process is all that can be undertaken within the scope of this article.

Letterpress Printing

Early efforts to print transparent cellulose on flat-bed sheet-fed presses were not successful, and the amount of material produced on such equipment is unimportant. The temperamental nature of the film made it difficult to control, and the registration of colors in a design practically impossible where one color had to be allowed to dry before another could be applied.

The existence of rotary presses, roll-fed, pointed the way to the first practical production of printed film. These presses were capable of applying from one to five colors in succession, almost simultaneously. Control of the film and accuracy of register were comparatively easy, and with the development of the special inks required, multi-color letterpress printing soon became a matter of routine production.

In the beginning, all printed cellulose had to be delivered from the press in sheets, slip-sheeted and racked in small piles for drying. After drying, the slip-sheets had to be removed by hand. Because of the obvious limitations of printed flat sheets in packaging many products, work was begun immediately on devising means of producing printed film in rolls. Success attended these efforts, and large quantities of film are now printed by the letterpress process, delivered in continuous webs, which, after drying are rewound, slit and delivered in rolls either for use on automatic packaging machines or for further conversion into bags or specialty packages. Even when final delivery is to be made in sheets, much of the printed film now in use is delivered from the press in rolls and later cut into sheets on special machines equipped with photoelectric cells to maintain accurate cut-off register.

Gravure Printing

Because of the quick-drying properties of the ink employed, and the opacity of color that can be produced, this method of printing on transparent film has definite advantages for many purposes. Where more than one color is employed, the printing is done "color on color" rather than with one color registered into another, as

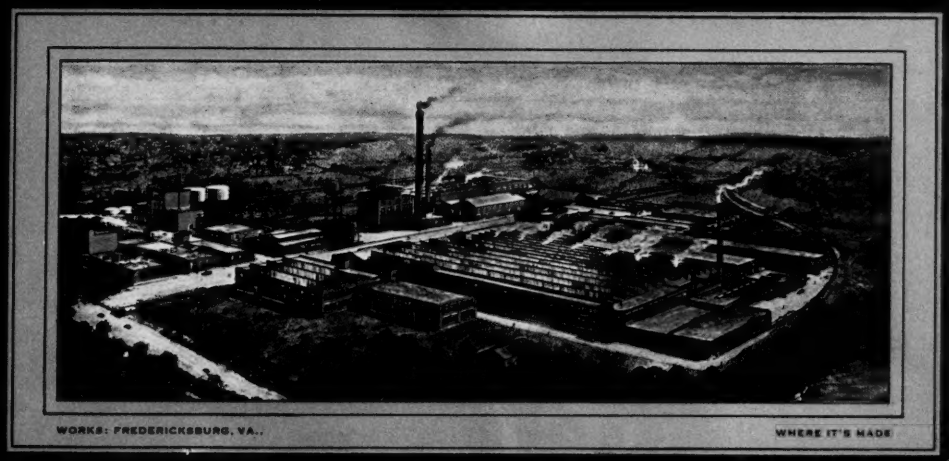
New qualities of lusture, moisture-resistance and imperviousness to friction are added to the three cartons, Keg Tobacco fibre can and Sun Ripe Cherries bottle shown below, through the use of gravure printed transparent cellulose, laminated to the carton, wrap and label stock



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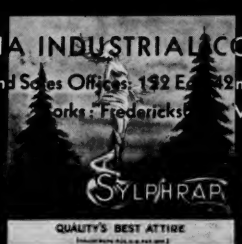
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Any product possessing eye appeal can be effectively packaged in printed transparent cellulose, as those in bags shown in top illustration, and those in envelopes and wraps in the lower illustration

in the case of letterpress printing. Delivery from the press may be in either sheets or rolls, and no slip-sheeting is necessary. All presses used in this form of gravure printing are necessarily of the roll-feed type.

Limitations and Advantages

A brief résumé of the limitations and advantages of each type of printing will be of assistance in choosing the correct process for a given application. Some of these features are listed below:

Benday: This is practical to a considerable extent in the letterpress process, and to a more limited degree in gravure. Wet printing presents problems in the use of Benday effects, but progress is being made toward improvement in this direction.

Halftone: Halftone work can be produced in both processes, although it is almost absolutely necessary to lay down a tint before the halftone is printed, to provide an adequate background.

Tinting: Transparent cellulose can be tinted by both processes, but especially gravure. Letterpress is definitely limited in this direction. Very clear, transparent tints in a wide color range are readily produced in gravure process.

Process printing: Because both the film and process inks are transparent, the production of process work is definitely limited at the present time. However, improvement in this direction is being sought, and undoubtedly will be made.

Reverse printing: Very beautiful effects are obtainable by printing transparent cellulose in reverse, by either the letterpress or gravure processes. The lustre of the film enhances and vitalizes the printed colors.

Lamination: By a recently developed, patented process, cellulose film, printed in reverse, can be laminated in a continuous web to a variety of base materials, such as paper, cardboard, etc. The laminated material can then be converted into various forms, including sheets, rolls, bags and cartons. The original properties of the film, such as lustre, moisture-resistance and resistance to friction, are retained. Colors are deepened and made more vivid, and novel effects are possible that cannot be obtained otherwise. This field of use for printed cellulose is certain of very wide development.

Metallic inks: These are being successfully applied by both letterpress and gravure. In gravure particularly, many highly attractive metallic tints can be produced.

Package Forms

Below is a brief listing of the package forms in which printed transparent cellulose is now available.

Sheets: Sizes obtainable range from very small sheets to 24 × 36 in. Printing can be had on any type of film, in from one to six colors.

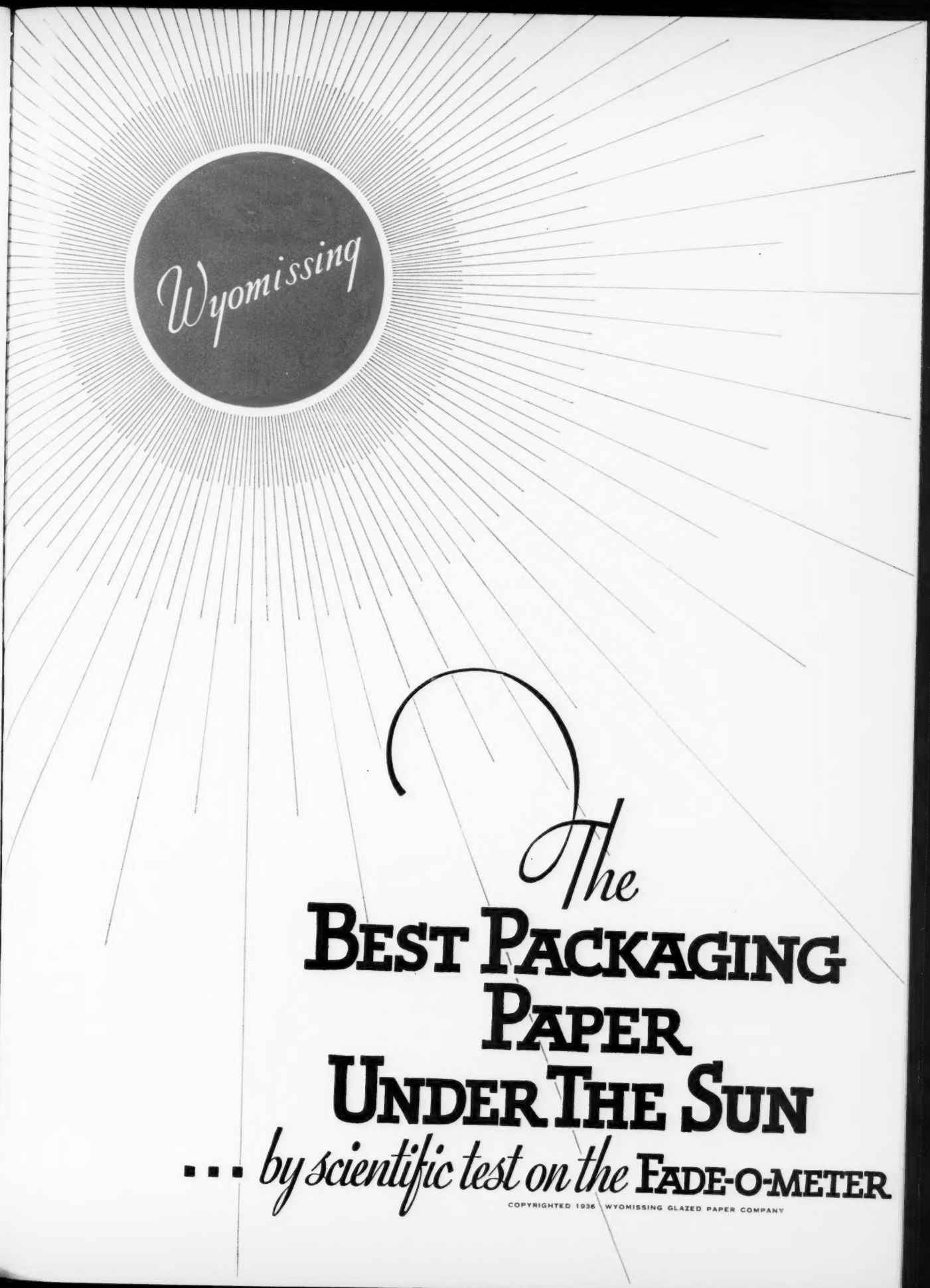
Rolls: Available in widths of $\frac{1}{4}$ in. to 36 in.; printed in from one to six colors, on any type of cellulose film. Especially useful for automatic packaging where photo-electric cell registration is employed.

Bags: Pre-printed in rolls, transparent cellulose bags are available in flat, square and satchel-bottom types. Printing can be in from one to six colors.

Envelopes: Both die-cut and roll-cut types are available, printed in as many as six colors.

Specialty packages: Bags of printed cellulose film combined with various types of paper, or provided with rigid backs of cardboard are available for uses where packages of these types are required.

Laminated printed cellulose: This new material comes in sheets and rolls as well as bags of the flat, square, satchel-bottom and automatic or "coffee-bag" type; also in folding cartons, box-tops and various kinds of covers or wrappings.


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LAMINATED TRANSPARENT CELLULOSE

DIVERSIFICATION in the use of transparent cellulose comes only after long experimentation and research work. Probably the newest outstanding practical application of cellulose in packaging is its lamination directly to the package structure. Laminated cellulose directly affects packaging in two major ways: First, for all cartons, boxes, etc., which are overwrapped in cellulose, a single wrapper may now be used; and secondly, other packages which can only be wrapped in a single sheet may have the wrapped package effect.

The beauty of a printed sheet, particularly an illustrated sheet, depends on the quality of the paper to give deep producing effects to the printing. A great deal has been done with papers to produce these deep effects. Also, printed sheets have been coated with transparent pyroxylin coatings to produce attractive tonal qualities in printing. Thin transparent sheets of cellulose acetate in common with pyroxylin coatings when laminated to paper produce glossy, impermeable, durable finishes in addition to the very important effect of tone quality in the printing.

While the use of transparent cellulose is primarily for appearance, it also possesses extensive protective qualities, greater than either of the base materials themselves would yield. Its uses, economies and general service are best shown by enumerating a few of the many applications for the material.

Folded cartons—printed or lithographed, in either large sheets or in roll form—may be directly coated, or laminated with cellulose, then cut into blanks, glued, folded and delivered—ready for distribution—with the cellulose applied, without any after wrapping.

Merchandise envelopes—in particular those which are displayed on counters, and where the contents are susceptible to moisture, water, handling, etc.—when laminated before folding offer not only sales appeal, but also protective qualities. Often a double envelop may be replaced by a single one with greater appeal.

Labels are made distinctive, water-proof, not subject to collection of dust and dirt, permanent and outstanding to the highest degree.

Another use which is growing in popularity is the lamination of cellulose to fancy box wrappers. Beautiful and elaborate papers, fabrics, metallics, and even lacquer finished, are greatly enhanced by the over-coating of a film. Likewise the less expensive printed papers may be brought up to be one of the most outstanding by this process. The colors are intensified, the designs



Illustration at right shows effect obtainable when lamination is applied, as contrasted with ordinary printed sheet as shown at left. Illustrations, courtesy of Celluloid Corporation



Laminated book jackets improve appearance and add durability. Laminated soap wrappers take the place of two single wrappings, adding cleanliness and better appearance

brought out and, although highly polished, the most delicate detail is preserved.

The publishing field has been one of the first to adopt laminated jackets for books. The advantages found in the use of laminated book jackets are twofold. One is to enhance the beauty of the jacket and, secondly, to make the jacket durable and cleansable, for laminated papers are easily washed with a damp cloth and soap.

The use of a single wrapper to replace a double one appears to be a very important development for laminated



An ordinary offset job becomes most effective when laminated transparent cellulose is applied to the printed surface



Laminated transparent cellulose applied to printed folding cartons. In this instance the "windows" are die-cut, without covering, but if desired the cellulose can extend over the die-cut area

cellulose. For example: We may take most any small article, such as a cake of soap, and find that it is wrapped, first, usually in a fine printed or lithographed wrapper, and then re-wrapped in film. This method of wrapping such a product would be to laminate printed cellulose with the plain paper.

Cellulose film, having such a vast number of useful characteristics, makes lamination an important factor outside of strictly the packaging area. All sorts of printed pieces—for either display, merchandising or protection—may be laminated to obtain the desired result. Magazine covers, posters, advertising broadsides, mail pieces, displays, signs, etc., may all benefit by the film covering. An important recent development of laminated applications of transparent cellulose to papers is that dealing with the lamination of transparent cellulose papers directly on printed folding boxes with cut-outs for windows. This development permits the lamination of the board as well as providing a transparent window.

These developments are the result of considerable research effort, and it is in order to mention a few of the obstacles that were present in its early stages. Cellulose film being of a very different character from paper—as to stretch and shrink factors, moisture content, etc.—would ordinarily cause the laminated material to warp and curl. This was overcome by the use of cellulose acetate, together with a solid or non-fluid adhesive. The feeding of sheets of all sizes and many different types and weights of paper had to be accomplished because of the wide field in which the product would be used. At the present time lamination is being done with large and small sheets as well as rolls.



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XUM

WINDOW FACE WRAPS

by A. V. HOLLOWAY

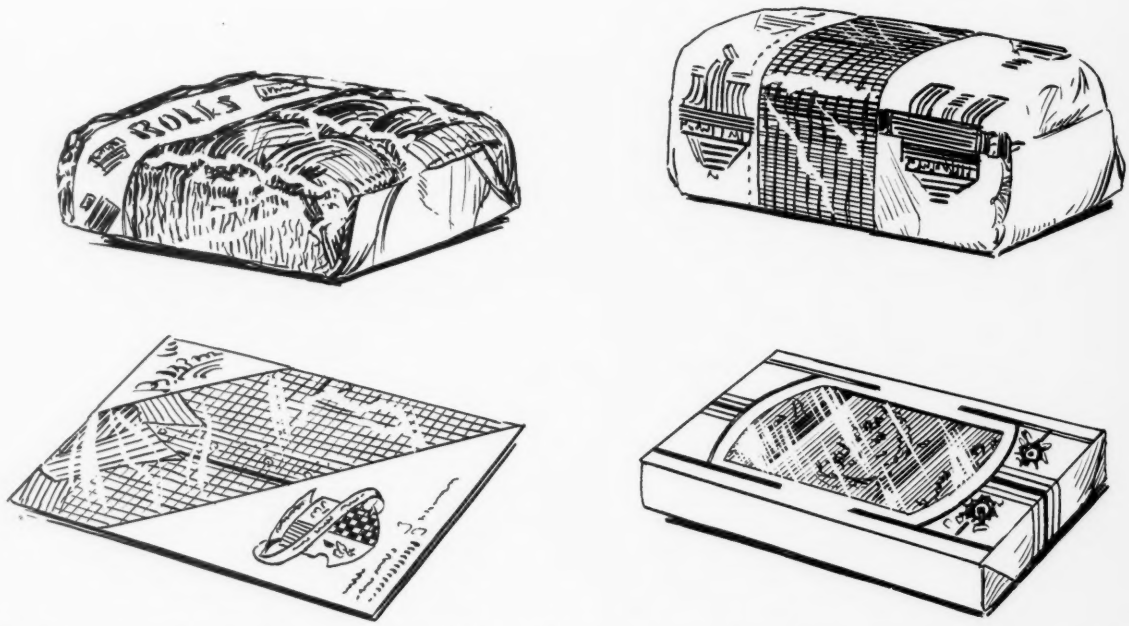
PROBABLY the best known examples of window wraps are the type that are being widely used for bread. Almost everyone is familiar with the wrapped loaf with a strip of transparent cellulose running around the girth, but few are aware of the many varieties that are available in this type of wrap and of the many successful ways in which it is being used.

Although the baking industry has been using window type wraps for over four years as a package for specialty loaves of bread, it is only recently that bakers have discovered that they can use the same wrapping machine and the same wrapper for packaging coffee cakes, doughnuts, cookies, fruit cakes and countless other items, simply by placing these goods in open face cardboard trays and passing them through the machine just as they would a loaf of bread.

Window wraps for bakery products must necessarily be moisture-proof. The cellulose is therefore of the heat sealing, moisture-proof type and the sides of heavily waxed, heat sealing paper. Bakers' wraps are supplied in continuous rolls for use on all standard bread wrapping machines. Window wraps are used extensively for candy bars, and small units of confection in cardboard trays. If the goods are machine wrapped the wrappers are supplied in continuous rolls, and the units of design are localized by the use of an electric eye. If the goods are hand wrapped the wrappers are supplied in sheets cut to the required sizes.

Materials vary considerably according to special requirements but the standard confectionery wrappers are fabricated of moisture-proof cellulose and grease-proof glassine papers.

A list of other papers frequently used in the manufacture of window wraps will include colored bonds, colored glassine, parchment, aluminum foil, kraft and fancy box papers. Printing is not necessarily confined to the paper portions of a window wrap, but it is generally so, since to cover the window with text or decoration would be to defeat the very purpose for which the package is intended.

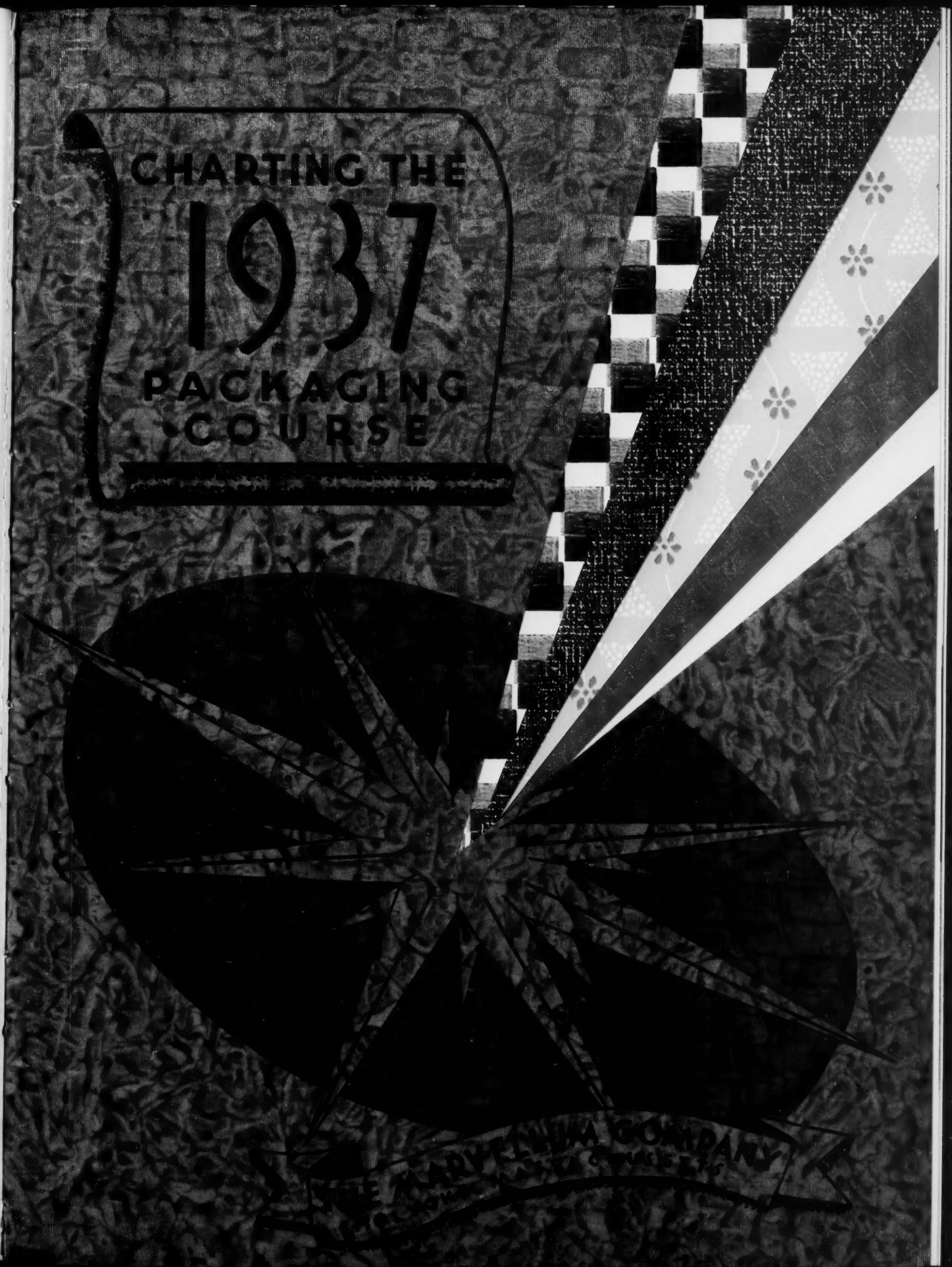


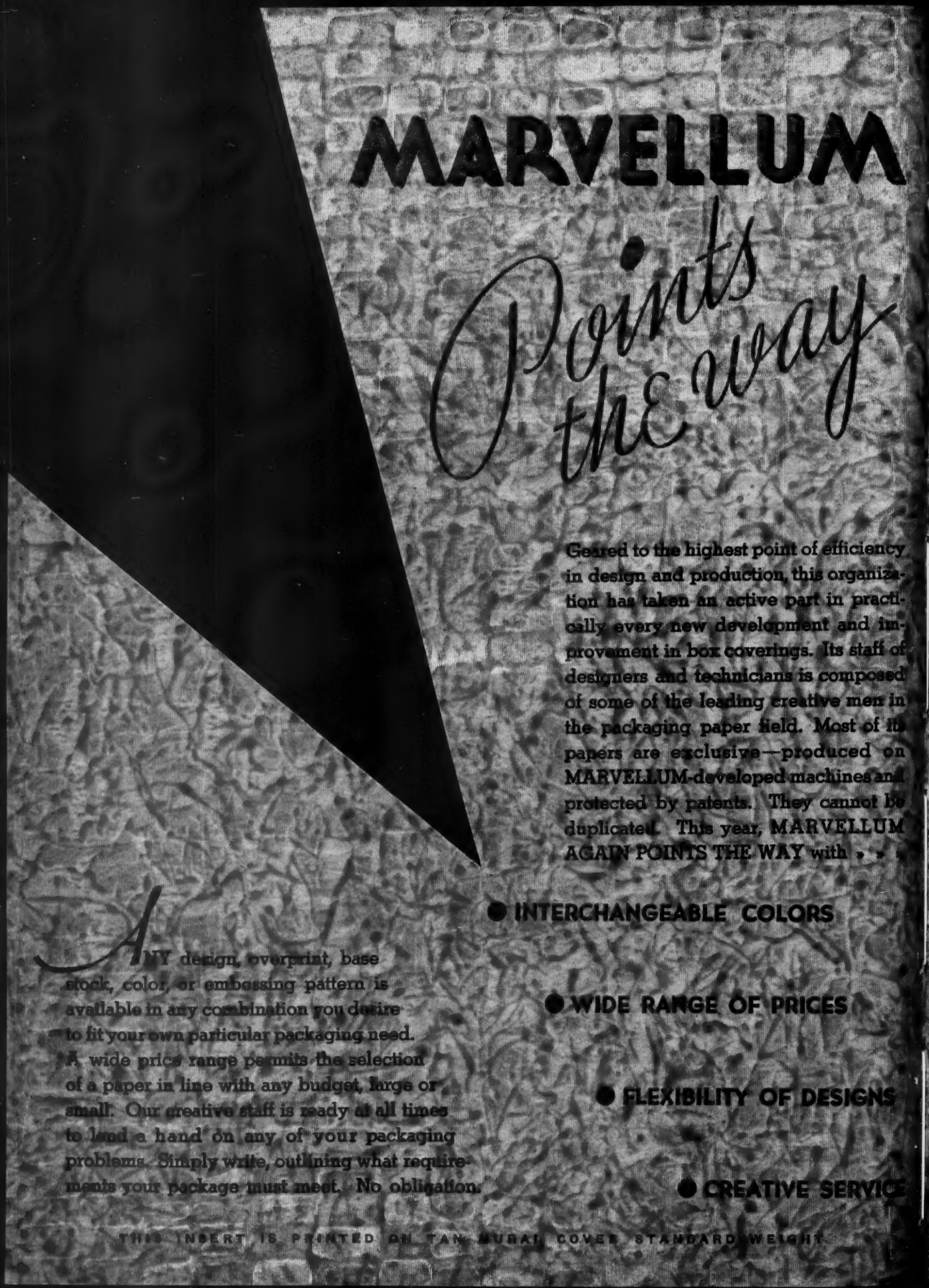
Window wraps which combine transparent cellulose (plain or printed) with waxed, glassine, foil, parchment, kraft and even fancy papers have had general acceptance in the wrapping of bakery, textile and food products

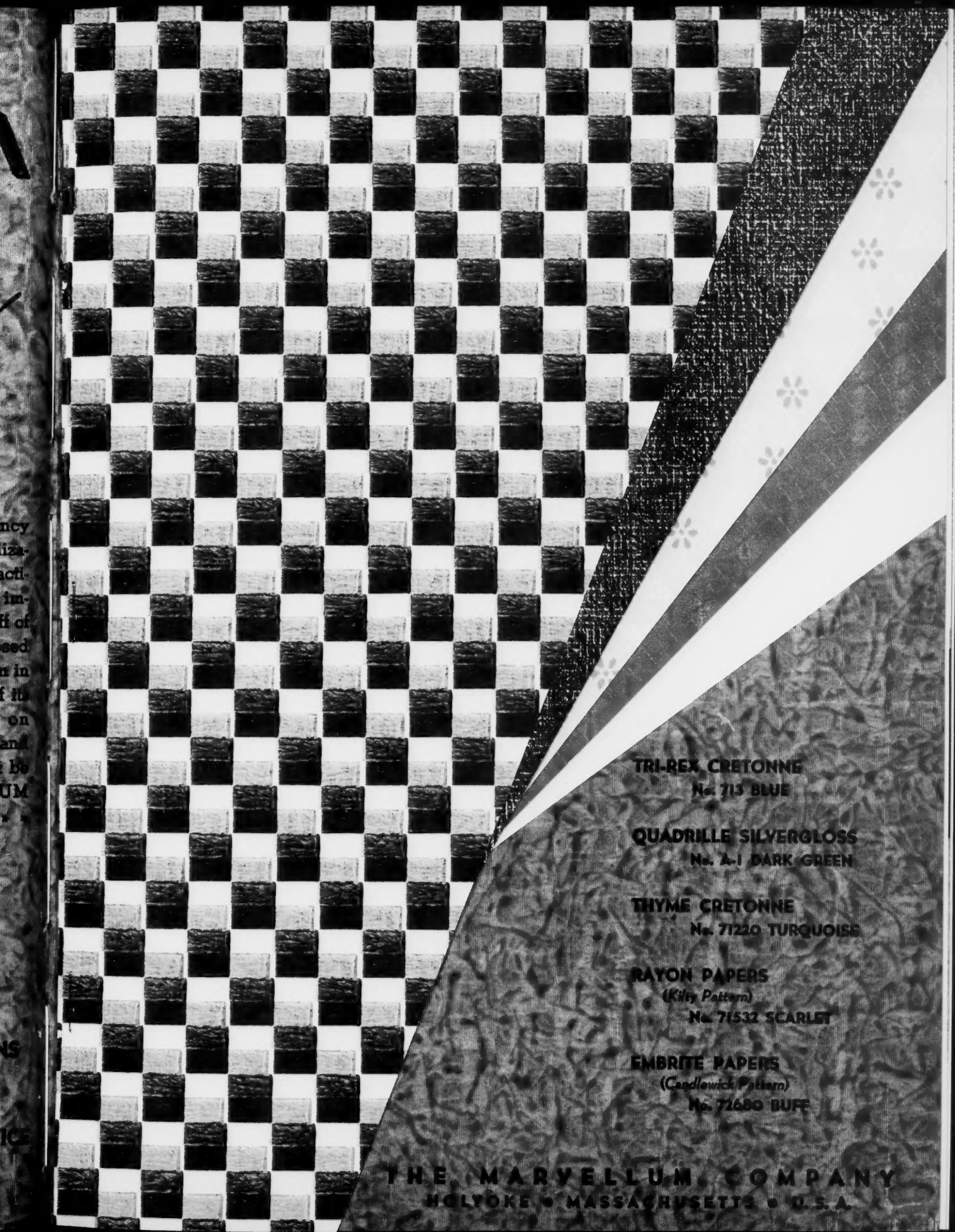
Not all window wraps are made with a continuous strip of window. Some are known as die cut wraps or may be better described as printed paper wraps with a neat oval paper cellulose window in the center. Window wraps, both full strip and die cut, are already appearing on countless items. A steadily growing list includes: sheets and pillow cases, shirts and bacon, fillet fish and stationery, salted nuts and macaroni.

In fact window wrappers are rapidly finding favor among manufacturers of all items where economy in packaging is essential and where protection, visibility and colorful printing is desirable.

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TISSUE PAPERS

by **HENRY W. VOGLER**

TISSUE is being used in this country in packaging an ever-widening range of products. Its use has become so important to many concerns that no one interested in producing more effective packages can afford not to investigate the advantages of using tissue. It can be used right along with almost every other packaging material performing always an additional function to more than justify its negligible cost.

The primary function of tissue paper is adding refinement to the packaged product. Its use adds a touch of character to articles as far apart as a whiskey bottle and piece of fine lingerie. Literally, hundreds of products can gain the impression of finer quality by the simple and inexpensive process of wrapping them in a good quality sheet of tissue. The tissue operates much like the striping on an automobile. Both give a finished touch to the product.

There is however, a secondary function of tissue paper. To many articles it gives protection during shipment—a type of protection which varies with the nature of the article and the kind of tissue used.

There are of course different grades of tissue with different characteristics. For all-around packaging, where both appearance and protection are important, the most popular grade is No. 1 White. This is a full bleached tissue made of an all sulphite finish. Color, strength and formation, of course, vary with the manufacturer but it is not difficult to select a sheet with good white color and strength and a texture which promotes the idea of quality in the product.

Where protection is the primary object and appearance is secondary, manila or No. 2 White tissues are often used. This is especially true in packing garments which are unpacked later before being displayed to the buying public. The tissue, stuffed into sleeves and padded around the garment, prevents much of the wrinkling which otherwise would occur. Manila and No. 2 White tissue is satisfactory for this purpose even though it is not pure white in color and is not as strong or uniform as No. 1 White. It usually contains around 40 per cent groundwood pulp, a cheaper grade than sulphite, which reduces its strength and appearance but, at the same time, increases its bulking qualities.

For wrapping such articles as silverware or metal products which tarnish easily, special non-tarnishing tissue is made. There are two kinds—white and kraft. White anti-tarnish tissue, or silver tissue as it is sometimes called, is a specially treated No. 1 grade. It contains a higher grade pulp and must be handled more carefully all through the manufacturing process than regular No. 1 White tissue. Every trace of sulphur, which promotes tarnish, must be eliminated. The Bureau of Standards specifies that tissue, in order to be safe for wrapping silverware must contain no more than .0008 per cent sulphur. Most white silver tissue is guaranteed to pass this test.

Most kraft tissue will pass this test, too, for the reason that kraft pulp is made by a different process than sulphite pulp used in manufacturing white tissues. Kraft tissue, however, has the same color as ordinary kraft wrapping paper. Hence its use is generally confined to the wrapping of hardware items, machinery parts, etc., while White Silver tissue is used for wrapping higher quality articles made of silver, copper and brass, etc.

Besides these grades, No. 1 tissue is made in a wide range of colors offering almost unlimited possibilities for a pleasing, harmonious effect. Manufacturers who cannot put color into their products find that wrapping in colored tissue is an inexpensive way of taking advantage of the sales appeal of color. Others use colored tissue to identify different products and still others find that certain colors serve a purpose which no other packing material can. Shoe manufacturers, for example, invariably use black or brown tissue in packing suede shoes in order to eliminate all possibility of white lint appearing on them.

Both white and colored tissues are also available printed with attractive everyday and seasonal designs—which opens up another wide field for the use of tissue in packaging. Almost any everyday item wrapped in a sheet of tissue decorated with a Christmas design, immediately makes a strong bid for sale as a Christmas gift. Likewise it can quickly become an appropriate gift for Easter, Mother's Day or any of the other numerous gift days of the year. Any carryover by the retailer can easily be taken care of by removing the tissue and selling the item as everyday stock. There are many decorated designs, too, which add a high degree of distinction to the product entirely aside from any seasonal consideration. So there are many grades of tissue, and there are almost as many ways of using tissue in packaging. The garment manufacturer uses it for stuffing and packing as does the manufacturer of hats and caps. His primary object is to prevent crushing and wrinkling during the shipment. The shoe manufacturer wraps each pair of shoes in tissue before it is packed in the box. He must not only protect the shoes from scratching and scuffing during shipment but make them look as attractive as possible when they are opened before the customer. The glassware manufacturer protects his product from breaking and chipping by wrapping each individual piece in tissue and the manufacturer of dinnerware, clocks, and many other fragile products does likewise. The silverware manufacturer uses anti-

tarnish white tissue, wrapping each article individually, to protect it from scratching and from tarnish. The manufacturers of hosiery, lingerie, gloves, neckwear, leather goods, line the boxes in which these articles are packed with tissue to give the product a finished appearance when they reach the consumer. The distiller wraps liquor bottles in tissue; the canner, canned goods; the sporting goods manufacturer, golf balls and fishing tackle. All down the line of manufactured goods, tissue is used and used effectively for packing. It is even used by the agriculturalist for wrapping oranges, apples, grapefruit and other products.

And thus far we have dealt only with the manufacturer and producer. There is another important packaging use for tissue paper, namely, in wrapping merchandise at the point of sale in the retail store. Here, appearance assumes first importance. In most retail stores, especially up-to-date department stores, sales rooms are made as attractive as money can make them. Everything possible is done to provide an attractive background for the display of merchandise. Fixtures, lighting, draperies, decorations—all are used to build up an atmosphere of quality. Everything is calculated to favor the merchandise.

When any article is sold, it must be taken away from these attractive surroundings and stand on its own. The next time the customer sees it, is in her home. The only way a store can bridge the gap is by sending out merchandise in a package which carries into the home some of the atmosphere of the sales room. In creating such a package tissue is of the highest importance not only because it adds refinement but because it is the one packaging material that comes in immediate contact with the article wrapped.

All department stores also are frequently called upon to wrap articles purchased as gifts. Here tissue is, if anything, even more important than in wrapping ordinary packages. The article is usually placed in an attractive gift box, lined with pure white or colored tissue and the box itself is then wrapped in tissue and tied with ribbon or tape. It is surprising how attractive packages can be made and how substantially gift sales can be increased with an intelligent, forward-looking gift wrapping policy. Decorated tissues are used extensively for wrapping during gift buying seasons.

Laundries use tissue, too, as do dry cleaners, tailors, gift shops, stationery stores, haberdashers, apparel shops, milliners. And, though waxed, it is still tissue that the butcher, the baker and the grocer use as an inner wrap for a variety of articles ranging from cold meats to hot doughnuts, as sold over the counter.

It must be mentioned, too, that both plain and waxed tissue, cut into fine even shreds find an important use as a soft, clean and highly resilient packing material. Green and purple shredded waxed tissue is the standard material for packing Easter candies. Plain and waxed tissue excelsior is used for packing.

It is obvious then, that tissue paper is already an important packaging material. It is destined to become even more so. The good taste of the American people is gradually improving. Packagers are obliged to improve right along with it. The use of tissue is one effective means, and an inexpensive one, of doing so.

Anti-Tarnish Papers

An anti-tarnish paper, whether in tissue weights or heavier weights such as parchment, is one that is made wholly from materials that do not contain ingredients, chemical or otherwise, that will cause tarnish on silverware or other highly polished metal articles. From this it will be seen that an anti-tarnish paper, as a wrapper, does not offer protection from tarnish, it merely is a wrapper that itself will not cause tarnish.

One of the fallacies, long held by the public to be a truth, is that black tissue, for instance, is a suitable wrapper for silverware. As a matter of fact, the dyestuff used in making black paper has a very decided tarnishing effect on polished metals and consequently black tissue is a very unsuited material for wrapping. Practically all anti-tarnish papers are white, although in late years certain light tints have been developed from dyestuff materials that do not contain tarnish impurities.

Sulphur, by far, is the most common and the most harmful of tarnish impurities. It is present in the atmosphere in varying degrees. The atmosphere around the city such as Pittsburgh, for instance, contains much more sulphur and sulphur fumes than would be found in the atmosphere of a rural community.

As previously stated, the Bureau of Standards specifies that anti-tarnish tissues for wrapping silverware must contain no more than .0008 per cent sulphur. This has likewise been established as a maximum for any paper that actually touches silver by one of the large silver companies. On paper, on the outside of boxes, which does not touch the silver, the percentage is .0016.

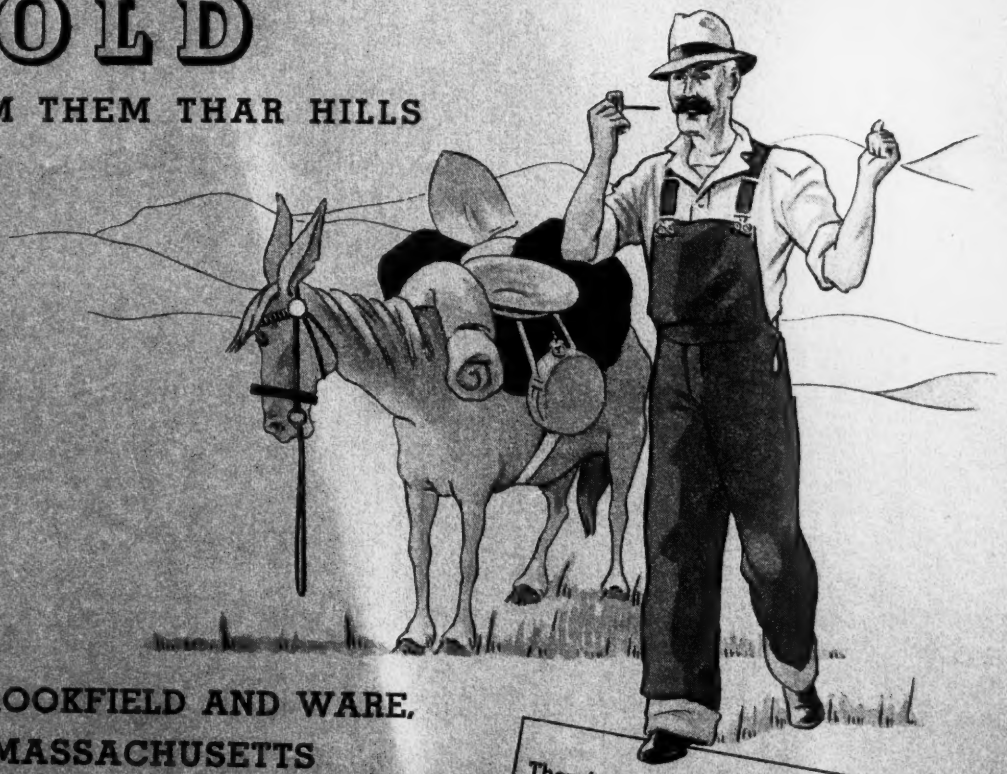
One white anti-tarnish tissue, known as Staybrite, is treated with a certain harmless chemical which has the faculty of absorbing sulphur, always present in atmosphere, and combining with it chemically to form a chemical substance that does not tarnish silverware or polished metals. This particular paper offers a real protection to silverware or polished metals from tarnishing and is said to be the only one on the market that will, in ordinary use, render satisfactory service in periods ranging from six months to two years.

Parchment is made from wood pulp which is manufactured by the so-called sulphite process and the paper itself is parchmentized by treating with sulphuric acid. Most parchment papers do not have satisfactory anti-tarnish qualities but some of the more expensive parchments have been washed and rewashed to remove all traces of free sulphur and can be used with more or less safety in silver wrapping. Bags made of parchment paper are usually lined with transparent cellulose to prevent a tarnishing action of the parchment itself. This transparent cellulose is practically air-tight which prevents tarnishing impurities in the parchment from reaching the silverware and is also in itself an anti-tarnish material.

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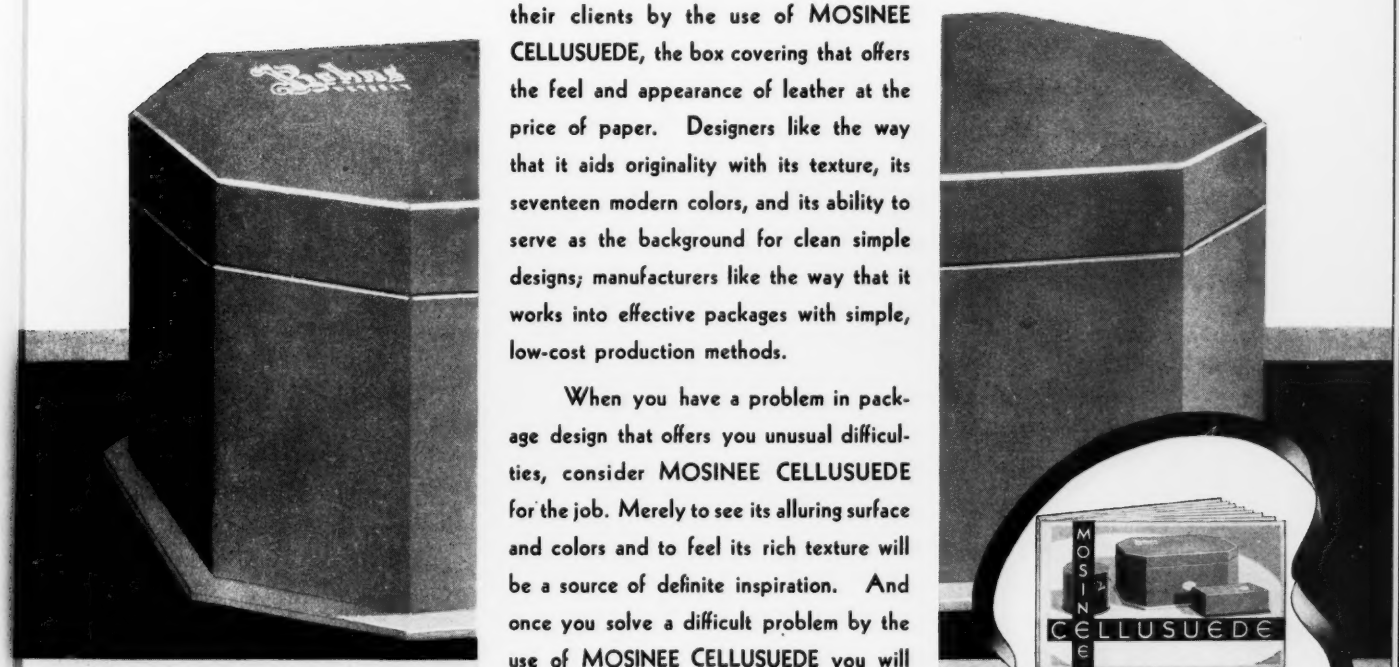
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LEATHERETTE AND FABRIC MATERIALS

THE following is a list and description of various types of materials commonly used for box coverings, as differentiated from fancy and decorative papers, lithographed and printed wraps.

280 Quality Fabrikoid is a pyroxylin coated paper, waterproof and washable. Firmness makes this material especially adaptable for set-up cases. This particular quality is the least expensive of this group but it is manufactured in a varied selection of grains and colors. Among its many applications in the packaging field is that of covering for boxes containing pen and pencil sets, razors and children's school utensils.

700 Quality Fabrikoid is a light-weight lacquered fabric, also washable and water-proof. It is manufactured in different pliabilities to serve a greater variety of purpose. Applicable to packages that demand a soft, pliable covering, such as comb or vanity cases; fragile or breakable apparatus such as mirrors use a less pliable 700 Quality. A varied selection of grains and colors are featured.

Fabtex is a rubberized fabric coated on both face and back. It is manufactured in either plain or pyroxylin coated finishes. Fabtex is water-proof and washable, available in an array of colors and grains. The material is not limited to a single quality but is designed to serve a number of purposes. Applications in the packaging field include binding materials and covers, catalogues and folders of a permanent nature.

Fabkote is a high grade, scientifically developed product having a non-woven cellulosic base. It is attractive in appearance, has a soft glove-like feel, retains a beautiful embossing, is free from clothiness and cuts with a clean edge that will not fray. Fabkote is water-proof, washable, will neither scuff nor mar, and is obtainable in a number of different qualities gaged to perform a definite job. It is manufactured to satisfy both high and low tensile and tearing strengths. It has been used to advantage in packaging confectionery and delicate instruments. Available in a wide variety of grains and colors.

Pontex is a latex saturated paper base product; pliable, tough and water-poof. Uniformity in thickness and size assures economical handling in plant operations. It cuts cleanly without a ragged edge, handles easily in all stitching operations and wears well in actual use. Pontex is used in packing goods which may be damaged by moisture such as cement, lime and coal. It also may be used to protect articles which are wet when shipped as for example, fish or other sea foods.

Keratol is manufactured in a variety of styles for use on containers for watches, jewelry and instruments of many kinds. Such containers are generally made up in the form of hinged cases either of wood or of metal covered on the outside with Keratol and lined with velvet. Some styles are careful reproductions of leathers; others are originations in design that parallel fabrics more than leather. Cases of this kind dress up show cases and show windows and add greatly to the impression of value in articles offered for sale.

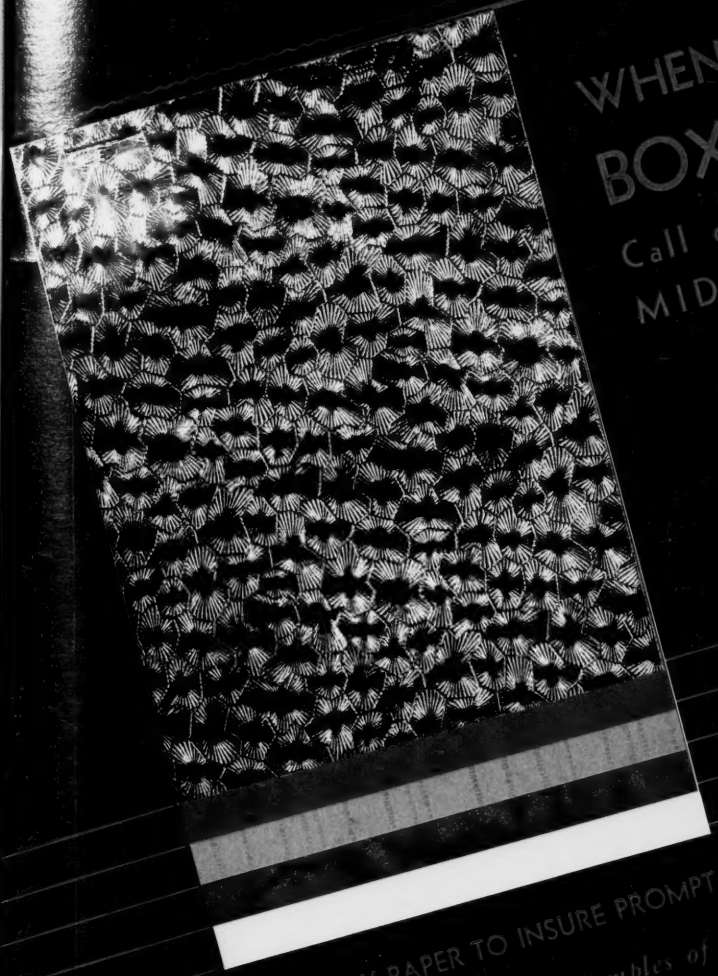
Revolite is not an artificial leather. It is quite different in that the coating applied to the cloth is of a special type phenol resin which does not contain rubber nor oxidizing oils. Therefore the material remains flexible for a much greater period of time. It is far more resistant to acids, chemicals, greases, etc., besides being waterproof and washable. Revolite comes in a wide variety of colors and in various qualities. Metallic finishes have been successfully applied to it. At the present time it is made only in plain colors, and few embossings.

Fabrics of all types are following style trends. New attractive colors and patterns are being introduced. Metallic cloths hold the center of interest since they are so much in keeping with modern interior decorations. Definite progress has been made during the past few years in the manufacture of fabrics particularly for covering re-use containers and stock boxes. The fabrics are waterproof and may be cleaned easily. The durability of the surface finish has been greatly improved so that fabric covered boxes will stand abuse and rough handling without becoming unsightly.

Velveteen fills a particular lining need in good packaging, especially where a soft cushiony effect is desired, as nothing else can quite give the effect of richness as a luxurious velveteen. Many box, case and tray manufacturers have been using velveteen for linings for many years, notably all the nationally known silverware manufacturers, pen and pencil set manufacturers, for perfume boxes, cutlery articles, razor cases, spectacle cases, draftsmen's materials, toilet articles. Velveteen comes in widths of 18 in., 22 in., 24 in., 29 in. and 36 in., making for a minimum of waste in cutting, and in a color range of 102 shades. When necessary any other shades can be dyed to match other materials. Velveteen is particularly adaptable to packaging as it is easily handled and may either be tightly stretched or shirred and conforms well to the surface which is being covered.

Examples of boxes in the fabrication of which these materials are used may be found in the illustration shown on page 120 in conjunction with the article "Leather and Fabric Covered Boxes," and also among the group of boxes shown in article "Set-Up Paper Boxes," page 54.

The requirements for such materials are that they should be adaptable for hand and, in some cases, machine operation and permit a nicety of finish in overlapping and mitering. The question of a proper adhesive in the application of these materials to wood, paper, metal or other substances is such that it can ordinarily be left to the glue manufacturer to furnish the right type.



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MIDDLESEX PAPERS

COTTON TYING RIBBONS

by R. L. HEARD

ON THE STATIONERY COUNTERS of practically every department store in the United States, as well as in every up-to-date gift shop are to be found unique ribbons, fabricated entirely of cotton yarns, known under trade name Ribbonette.

The process under which these unique cotton ribbons are manufactured permits of literally hundreds of color combinations and designs. There are, for example, "gingham" designs which give the effect of tiny checks; plaids, stripes, modernistic patterns and, newest of all, ribbons which appear to be hand decorated with flowers, conventional designs, stars, bells, etc., in three, four or even more colors. The second reason for the popularity of these cotton ribbons is their unusual strength.

Similarly these cotton ribbons have become a favorite tying material of manufacturers who are producing products which require a decorative package. To the features of beauty and strength is added the fact that the ribbons may be made to order in small quantities.

They are specially processed from cotton yarns, yet resemble the finest silk ribbons. A good comparison as to cost would be the price relationship between cotton fabrics and silk fabrics. The manufacturer can give his package all the beauty and richness of silk ribbons at the cost of ordinary cotton tape.

Still one more feature makes cotton ribbons of this type appeal to retailers and manufacturers alike. Any design, any ribbon can be printed with the brand name or trade mark of the user. Thus, not only does the manufacturer secure the identification and trade mark value of an especially made exclusive design, but he secures the benefits of the advertising printed on the tying material itself.

Ribbonette has an unusually wide field. Among some of its commercial users are textile mills for tying sheets, pillow cases, towels, wash cloths, etc., in bundles and in "sets" for gift purposes; manufacturing confectioners, bakers, perfume and toilet accessory makers, etc.



Decorative cotton ribbons for tying sheets and pillow cases is but one of their many uses

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DECORATIVE CELLULOSE RIBBONS

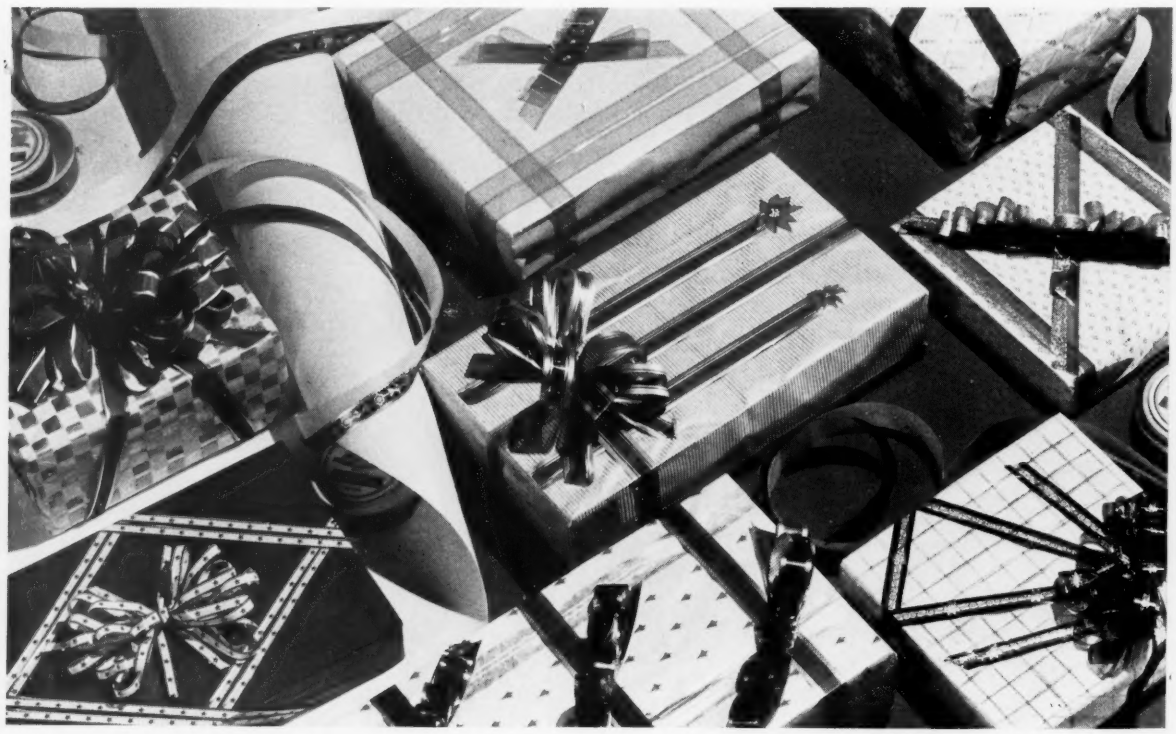
by N. J. STRAUSS

DUE to the efficient facilities that have been created for the manufacture of cellulose ribbon, it is possible to obtain not only single colors but combinations of colors as well. These ribbons can also be imprinted with patterns appropriate for each individual holiday, such as Christmas, Easter, Mother's Day, Hallowe'en, Thanksgiving, Fourth of July and many of the other less important occasions.

Cellulose ribbons, being completely transparent, offer a unique advantage to packagers. It is possible to decorate a package without hiding any portion of it. This is particularly advantageous in the tying of food products. As a matter of fact, cellulose ribbons are frequently used to emphasize some portion of the package; namely, if a large packager has a particular part of the package which he wishes to stand out, he can tie over this portion with a colored cellulose ribbon and it will have the effect of magnifying that particular portion of the package. Due to the fact that cellulose film is in itself sterile, it is of definite advantage as a use in the tying of food products. Cellulose ribbons do not fray, they do not become soiled or shopworn. They are now manufactured in all widths from 1/4 in. up to 3 in. or 4 in. and are readily available in hundreds of patterns. In the main, too, they may be had in anywhere from fifteen to twenty colors.

We have spoken of the method of manufacturing cellulose ribbon, which brings up another point of great importance to the advantage of these materials. Cellulose ribbons are cut, decorated, treated and folded. A special treatment under which one brand of ribbons are manufactured includes a process which softens them and makes them impervious to weather and climatic conditions. Such ribbons, under these circumstances, will last for an indefinite period. It is possible for a large packager to put in a substantial stock without fear that it will deteriorate.

In addition to the wide industrial use that is made of cellulose ribbons, an enormous consumer acceptance has been built up for ribbons of this type. Such ribbons are now sought after by the consuming public as the ideal decorative tying material for gift packages for Christmas, Thanksgiving, Easter, Mother's Day, etc. It has been maintained that what the consumer accepts for his own packages will undoubtedly be particularly sought after in industrial packages. Cellulose ribbons are packaged in large bulk units for industrial use, and in small rolls for consumer use.



Brilliance of lustre and color are obtainable in transparent cellulose ribbons as applied for tying purposes



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Constellation
Snow Mica
Embossed Flint
Embossed Mica

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Colonial Cloth	*6 colors*
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Snow Mica	*7 colors*
Flint - Embossed or Plain . .	*20 colors*
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CELLULOSE CORD

by A. S. BYE

WHILE cellulose ribbon has been making rapid strides popularizing itself as a practical and beautiful package tie both for commercial purposes and home use, one of the foremost ribbon manufacturers has been developing a cellulose cord that combines beauty with practicability, versatility and economy. Even before this manufacturer (one of the original licensees of ribbon patents) made ribbon, he had been experimenting with cellulose cords. Though comparatively simple to make a twisted cellulose cord, making one that will tie easily, remain flexible and soft, necessitated a vast amount of research.

In May 1936 patents were granted on a new cellulose cord that employed the use of a core which can be made of a variety of materials giving definite control of strength, flexibility and color. Thus while the cellulose cord in general use has a rayon core, where desired the core may be cotton thread or metal wire of various gauges. The standard core adds to the beauty of the cellulose film which when twisted into a cord has a density of color making it even more beautiful. The important factor about this new cord is that special combinations of materials and special thicknesses of gauges can be run in reasonably small quantities so that the cord can be tested thoroughly for any special purpose at moderate cost. Usually small runs of special materials mean that production costs are prohibitive.

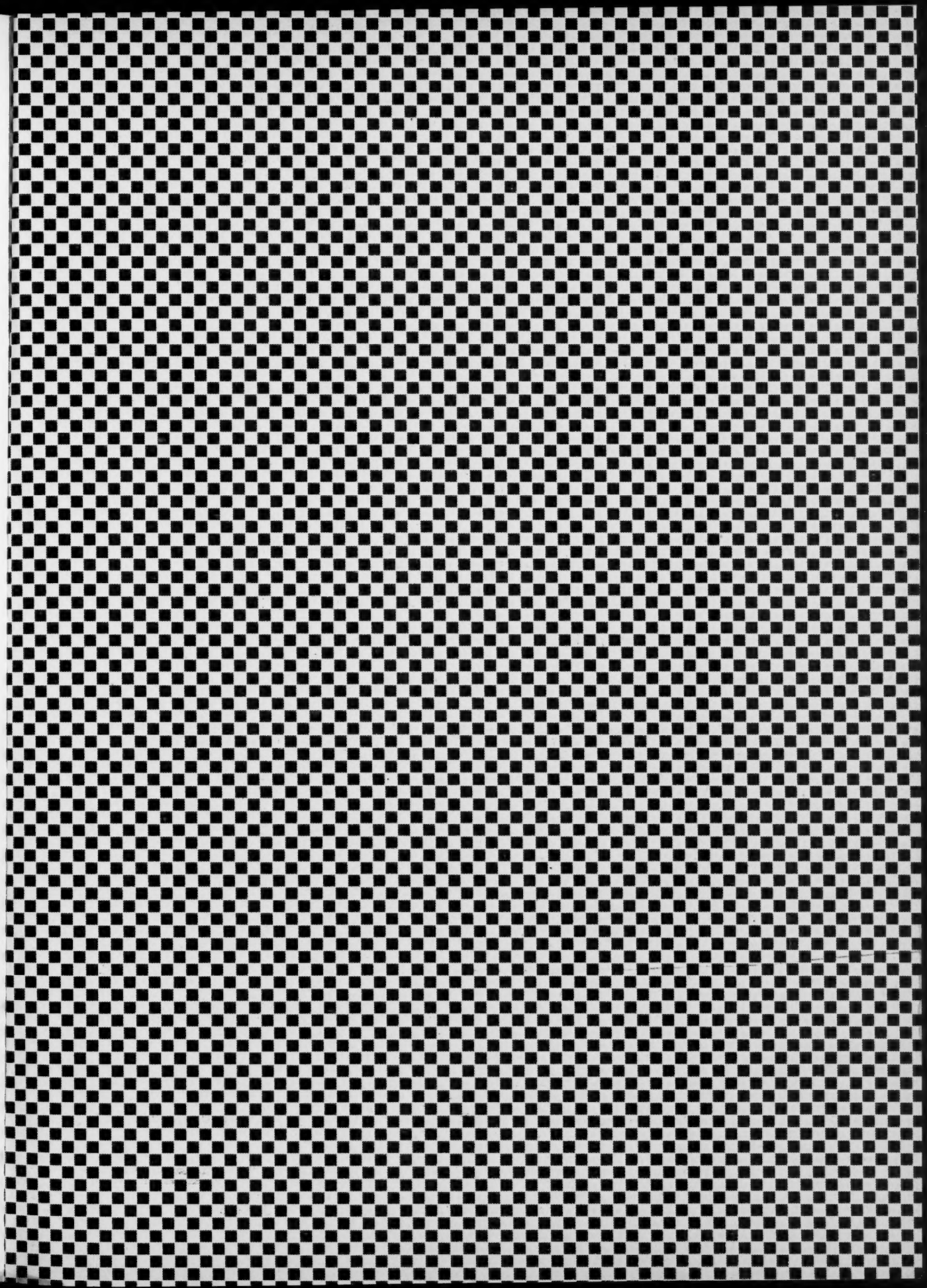
One look at this cellulose cord, available in fourteen different colors and a number of two-tone effects, immediately suggests many uses for the product for commercial purposes. The volume of business done in its first season as a gift tie material for home use is proof enough of its attractiveness. While this new cord lends itself to the daintiest sort of packaging, because it is simple to handle and because a number of the colors are definitely masculine, the cord has a decided appeal to men as well as women. Though many of the better packages are intended for the gentler sex, much of the buying of such articles is done by men who consciously or subconsciously will select the package that is more appealing to them. It is easy to understand how a package tie that appeals to both sexes will help sales.

Some of the many uses the cord is adaptable for are box ties; bag ties both for closing the neck as well as for supporting the bottom and dressing up plain cellulose bags; for added dressy touch to toiletries and cosmetics; for meat products such as packaged hams; for combining several kindred articles particularly at holiday seasons to increase unit of sale; for combining novelty or toy with confectionery package; for securing direction pamphlet or other article to neck of bottle or other type package; for general usage in packaging candy, drugs, jewelry, baked goods, textiles, novelties, etc.



Transparent cellulose cord as used for novelty and gift packages

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SHREDDED PAPER

UNTIL a few years ago matters pertaining to protective packings were more or less routine matters, handled by the production department, and utilizing materials which were readily available. So long as the product was packed securely, so that it would not actually be broken in transit, this served the purpose, with little consideration or even thought of the impression made on the consumer when opening the package.

When the demands for improved methods forced sales and advertising executives to study all packages being used, viewing them not as production units in the factory, but as silent salesmen, they soon detected the shortcomings of many packaging materials. From a purely protective angle it seemed that wood excelsior served the purposes of preventing breakage of the product packaged in glass. However, looking at it from the consumer's angle, this packing material was unpleasant to handle, the product could not be removed from the outer container without some of the excelsior spilling on the floor or rugs, and finally it failed completely in so far as having any eye appeal, being a utilitarian product.



Paper excelsior effectively used for protection and display

The first utilization of shredded papers, made from trimmings, met no ready response, but after exhaustive laboratory tests it was shown that paper excelsior absorbed up to fifty per cent more of a shock than wood excelsior, and thus established it as not alone equal to wood excelsior, in protective qualities, but superior. Studies made in typical packing and shipping rooms showed that operators saved fifteen to twenty per cent of the time required to pack various products in wood excelsior as compared to that made from paper. And finally, from the consumer's angle, because paper excelsior was easier to handle and dispose of, because it could utilize color and thus add beauty to its protective qualities, it was a greatly preferred product.

Once the superior protective qualities of shredded paper had been established, it opened an entirely new field of packing materials. Mechanical ingenuity developed an economical device to shred newspapers, and other waste papers, for factory shipments where protection was the major consideration. It was further discovered that by using shredded oiled papers certain machine parts, such as gears, could be protected from rusting during the period the shipment was in transit.

But while shredded paper has been put to a variety of uses in the industrial field, its most interesting application is in the field of consumer goods. Experiments conducted by the Department of Agriculture established the fact that shredded paper, impregnated with mineral oil, reduced scald on fruit in storage from sixty-five to four per cent, which made possible the packaging of produce without individual wrappers which robbed the fruit of its colorful and appetizing appeal. Each year more and more choice apples, pears and grapes appear in tempting display boxes, the natural beauty of the fruit enhanced against a background of white, green or other colored shredded paper.

One of the most significant facts learned during the past decade has been that it is not sufficient to have an excellent product, manufactured to meet efficient factory operations and requirements, and packaged in a strictly practical container which did little but deliver it to the consumer safe and sound. For when a competitor, with perhaps an inferior product, placed his manufacturing ideas in the background and interested himself primarily in the things the consumer thought and wanted in products, and then followed them out faithfully, he got more than his rightful share of the business and the profits resulting therefrom.

It was natural therefore that manufacturers searching for new methods to present their products so that they would be newly interesting and desirable, should see decorative possibilities in shredded papers, in addition to their protective qualities. Viewing this material from its style and decorative angles led to the use of various types of waxed glassine and cellulose papers to get effects unobtainable with plain papers. Color, which transformed other utilitarian things, worked equally well with shredded papers.

Irregularly shaped products, such as whole baked hams, which had been difficult to package in standard containers, for holiday and gift purposes, were most attractively presented in display containers, resting in a padding made of colorful shredded paper. Gift boxes and chests, containing combinations of individual packages in tin and glass, were made attractive and practical when shredded paper was used to fill in the odd spaces, and prevent breakage.

SECTION 5

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ALUMINUM CONTAINERS
SPECIALTY METAL CONTAINERS
FIBRE BODIED CANS
COLLAPSIBLE METAL TUBES
APPLICATOR TUBES
TUBE SPECIALTIES

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TIN PACKAGES AND CANS

by EDMUND HOFFMAN

THE PRODUCT of the tin container manufacturer is so broad in scope and so diversified in type that only the most standardized classifications can be outlined in the allotted space of even so generously proportioned a publication as this catalog. In addition to thousands of specialty items, the can manufacturing industry supplies containers for hundreds of major products so varied in type and package requirements as aspirin tablets, paint, fruit cake, talcum powder, coffee, shoe polish, tomatoes, cigarettes, oysters, lard, hand soap, lubricating oil, etc. Methods of manufacture and the types of equipment required to produce containers for these products vary as widely as the products themselves.

Tin containers are divided by the manufacturer into two general classifications: (1) Packers' Cans and (2) General Line Containers.

Packers' Cans

Packers' cans, also called sanitary cans, are the hermetically sealed containers used for packing processed perishable foods such as vegetables, fruits, fish, meat products, soups, etc. Every one is well acquainted with the standard cylindrical sanitary can commonly used for packing tomatoes, baked beans, salmon, corn or soup. These round cans, made in a wide range of standardized diameters and heights furnished with the design lithographed on the body of the can or in plain tin for paper labeling, represent the bulk of the production of the packers' can factories.

Other types of sanitary cans are the tall oblong style commonly used for packing asparagus, the flat oblong sardine can and the large, irregular shaped cans now widely used for packing whole hams and chickens.

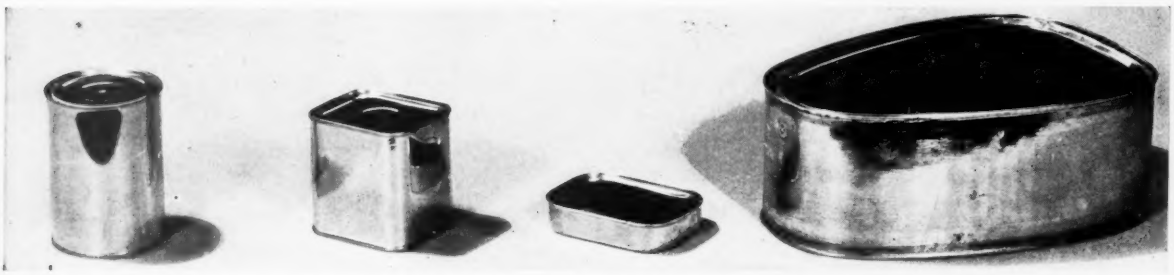
General Line Containers

General line cans embrace all of the tin containers other than those for processed food products and are divided into two principal classifications: (1) Liquid Containers; (2) Dry Product Containers.

Liquid Type Containers

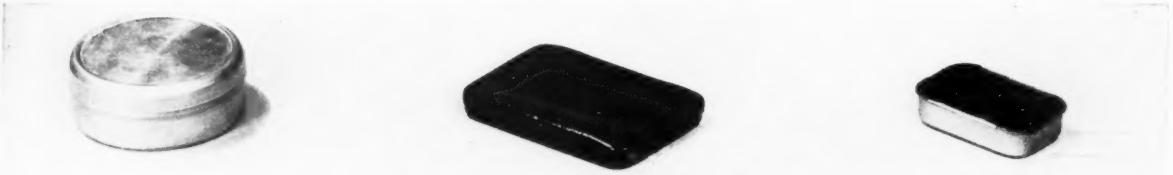
The standard and most widely used of the liquid type containers range from the small oval lubricating oil can to the familiar five-gallon square can used for a variety of products. Cans in this group include those used for paint, varnish, linseed oil, metal polish, syrup, olive oil, alcohol, lubricating oil and a number of chemical prod-

PACKERS' CANS



Left to right: Round: tall, sanitary can for vegetables, fruits, soups, fish and other processed foods; oblong, tall, sanitary can commonly used for asparagus; oblong, flat, sanitary can, sardine type; irregular sanitary can for whole hams and chickens

GENERAL LINE CANS—SEAMLESS TYPE



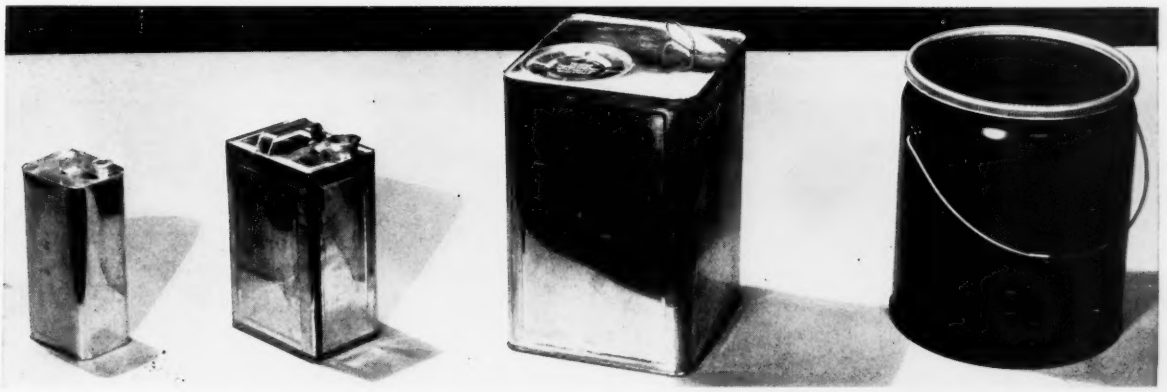
Left to right: Round, seamless, slip cover ointment box; oblong, seamless, hinge cover tablet and pill box; oblong, seamless, slide cover box for tablets and similar products



Left to right: Round, pieced pail, with doubletite friction plug and wire bail, widely used for paint; round, pieced pail, with full friction opening and wire bail for oysters, cleaning pastes, etc.; round, pieced can, with single friction plug, for paint and various liquid products; round, pieced can, cone top style with screw neck and cap for metal polish



Left to right: Key collar vacuum can for coffee and dehydrated milk; oval oiler with spring bottom and utility spout for household lubrication; round, pieced, sanitary style, motor oil can for use with special dispenser



Left to right: Oblong, pieced can, with screw neck and cap and wire ring handle for edible oils, lubricating oils, syrup, etc.; oblong, pieced can, with nozzle and tin handle, for varnish, shellac, etc.; square, pieced, domestic oil can with single friction opening and wire ring handle; round, pieced pail, with ring seal cover and wire bail, for paint

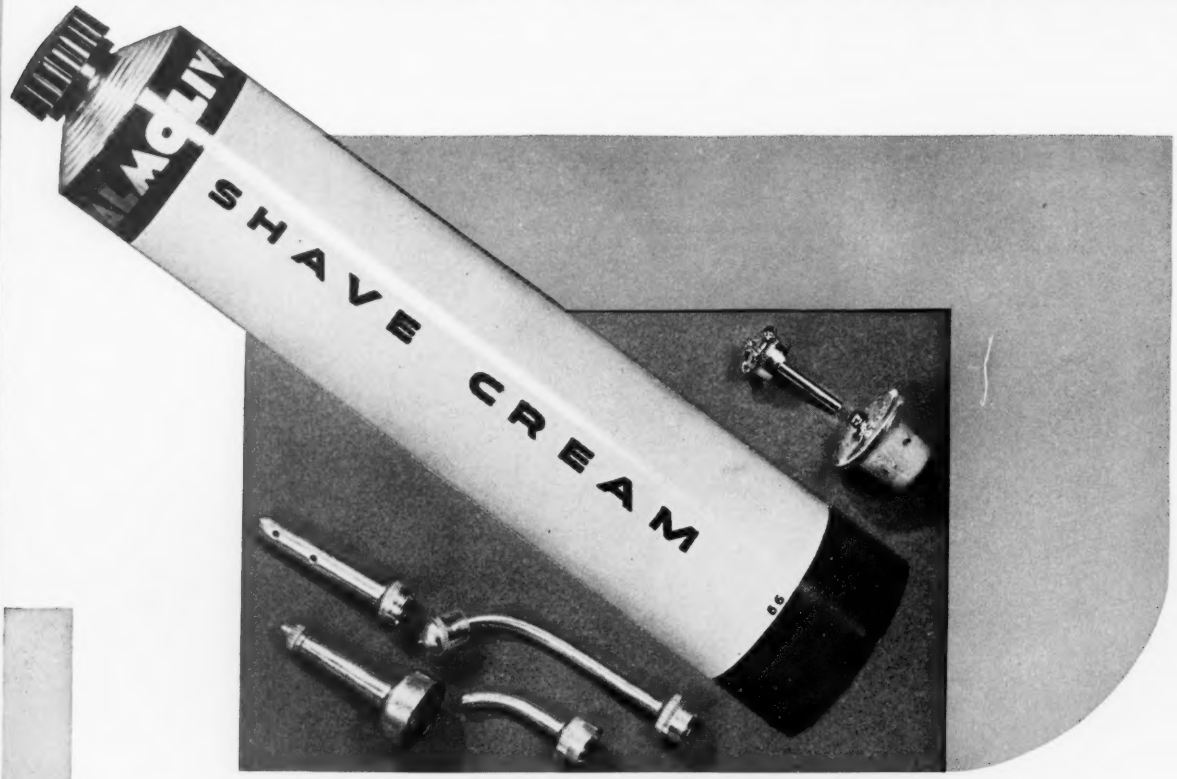
ucts. Liquid containers are made with soldered or compound lined seams and are carefully air tested for leaks. Although containing a dry product, the widely used key opener vacuum coffee can is included in the liquid type classification, for it is made not merely liquid tight but sufficiently tight to hold a high vacuum pressure.

Dry Product Containers

In the dry product classification is found the widest diversification of size and type of package ranging from the $^1/_{16}$-oz. ointment box to the 50-lb. shipping containers for bulk crackers. In this group are included cans for cocoa, tobacco, crackers, spices, aspirin tablets, coffee, cigarettes, talcum powder, tea, candy, baking powder and various dry drugs and chemicals; also an infinite variety of specialties embracing such items as dental bobbins, lunch boxes, vacuum bottle cases, first-aid cabinets, goggle cases, etc.

Dry product containers may be further classified as being (1) seamless or (2) pieced. The seamless box is one in which the body is drawn or pressed into shape from a single piece of tin plate. Many of the smaller contain-

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EYE APPEAL
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—of tin-coated lead where lead tubes are satisfactory but a "dressy" look heightens the sales appeal.

SPECIALTIES—of tin: spouts for household cans, applicator-pipes and covers, sprinkler tops, bottle stoppers, etc.

Ours is a wide experience in the design and manufacture of collapsible metal tubes and specialties. We are now in our second century and enjoy cooperating with manufacturers who believe that convenience, eye appeal and economy are sales factors.

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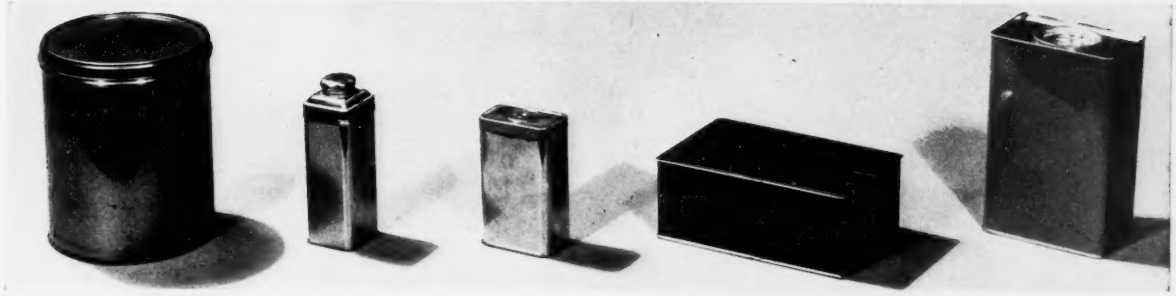
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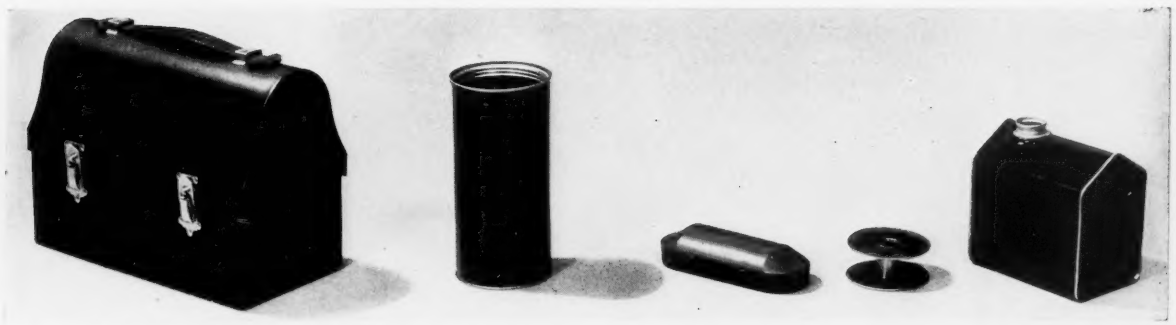
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GENERAL LINE CANS—PIECED CANS—DRY PRODUCT TYPE



Left to right: Round, pieced, slip cover can for crackers, etc. Same type in flat style used for cakes and candy; square, pieced, friction slip cover talcum powder can with neck and revolving perforated sifter cap; oblong, pieced, friction slip cover spice can with revolving sifter dredge. Same type with regular slip cover and without dredge used for cocoa. Oblong, pieced, padded hinge cover candy box; square, pieced, single friction top can for powdered drugs and chemicals

GENERAL LINE CANS—SPECIALTIES



Left to right: Lunch kit, made to accommodate vacuum bottle in cover; vacuum bottle holder; goggle case; spools for adhesive tape; irregular shaped syrup can

ers such as those used for aspirin tablets, laxatives, ointment and shoe polish belong to this classification. Pieced containers are those in which the body and bottom are made of separate pieces of tin plate pieced or seamed together. Most tin containers whether for a roll of $^1/_2$-in. adhesive tape or for five gallons of paint are of the pieced type.

Covers and Closures

The final factor in classifying a container is the type of cover or closure used. The regular slip cover, usually seamless, is so well known as to need little description. It may be made with either raw, hemmed or curled edge, is applied and removed by hand and fits over the top of the body of the container loosely or snugly as may be required by the product contained in the can. Covers of this type are used on many of the seamless type boxes as well as on cans for baking powder, tea, candies, cake, crackers, etc. Of similar type but of different function is the friction slip cover. This cover is made to fit the body snugly, is usually applied by machine and is not removable. Such covers are usually fitted with a sifting dredge for spices, a sifting neck for talcum or other toilet powders, or a screw cap for drug and chemical powders.

The hinged cover is also quite generally used on oblong and square dry product containers both large and small. Lugs on both body and cover of such a container are clinched over a piece of wire, thereby joining the two members together. Aspirin boxes, tobacco tins and most of the larger size oblong candy containers are ordinarily provided with hinged covers.

Still another type of cover for dry products is the slide cover. This is confined almost entirely to small oblong seamless boxes for pills or other small products. Automobile tire valve stems and a variety of proprietary tablets are packed in seamless slide cover boxes.

The compression friction top is a type so generally used that every one is thoroughly familiar with it. Although most commonly associated with round liquid type cans, particularly paint cans and pails, it is used on round, oval, square and oblong containers for both liquid and dry products. Its chief function is as a closure to prevent leakage of liquid or sifting of dry powdered product. There are two types of friction tops; the single friction and the "doubletite." As the name implies, the single friction makes contact between the plug and ring

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New types of metal containers for beer

at one point only, whereas the "doubletite" has two separate points of friction contact. A variation of this type of closure is the full opening friction. In this type the top of the can body is not fitted with a seamed ring and the friction plug fits the full opening of the can body.

All processed foods as well as those packed under gas or vacuum are hermetically sealed in cans having both top and bottom ends double-seamed to the can body. The processed food cans are opened with a can opener, the contents usually being immediately consumed and the container discarded. In cans of this type no reclosure feature is needed or provided.

The can for products packed under gas or vacuum is furnished with a key for winding off a scored strip circling the body near the top. A separate ring, or collar, of tin is attached to the inside of the top of the can body forming a seat for the slip cover which remains after removal of the scored strip, thus giving these cans a reclosure feature. The vacuum coffee can is an example of this type of container known in the trade as the key collar can.

There is also a great variety of liquid type containers made with double-seamed tops fitted with nozzles or threaded necks to accommodate various types of closures as detailed elsewhere in this catalog. Cans of this type are used for edible oils, syrups, varnishes, lubricating oils, alcohol and many other liquid products.

Tin plate as used in can manufacture consists of a steel base, rolled from bar form into a thin sheet and coated or plated with tin. The unit of measure for tin plate is the "base box" consisting of 112 sheets, 20 in. long by 41 in. wide. Tin plate is first classified as to the weight of the sheets in terms of pounds to the base box. These weights range from 56-lb. (0.00638 in. thick) to 175-lb. (0.1995 in. thick) plate. The larger the container and the heavier the product to be contained, the heavier is the plate required for the can. The great majority of cans of average size are made of 90-, 95- and 100-lb. plates. Tin plate is further classified as to the weight or thickness of the tin coating, sheets with light coating being designated as "coke plate" and those with heavier coating as "charcoal plate." There are several grades each of coke and charcoal plates. Coke plate is most extensively used, charcoal plate being required only for cans containing a product embodying an oxidizing agent.

Methods of Can Manufacture

Methods of can manufacture may be broadly classified into four groups: (1) hand made; (2) single operation; (3) semi-automatic; (4) automatic. Standard cans used by the trade in large volume are made by the automatic or semi-automatic method, whereas non-standard cans of small volume must be made by hand or single operation methods, as the limited volume would not support an expensive automatic line of machinery. Therefore non-standard cans are costlier.

Tin containers may be supplied in plain tin for paper labeling or may be lithographed in any combination of colors from the simplest one-color label embodying lettering only, to the complex multi-colored art subjects widely used on tin containers by the confectionery and toilet goods trades. Important advances in methods of lithography on tin have been made in the past few years and many new and effective finishes introduced. Each color of the design is printed separately on the flat sheet of tin plate and baked in a high temperature oven. After the last color is baked on, a protective coating of varnish is applied and baked hard to prevent scratching or marring during manufacture and to preserve the attractive appearance of the finished container.

The actual manufacture of the tin container is only a part of the complete service rendered to the trade by the larger can manufacturers. Expert advice as to type of container and merchandising methods is given by men qualified by years of experience in the container field. Extensive art staffs are maintained to produce designs and to advise with respect to color schemes and all matters pertaining to the decoration of the container. Research laboratories, with staffs of expert chemists, are available for the study of problems of bacteriology, corrosion, product deterioration and all matters pertaining to packaging in tin. A large staff of expert mechanics is maintained and is available at any point throughout the country, day or night, on short notice, for the servicing of can-closing machinery in customers' plants.

METAL CONTAINER FINISHING

MOST INDUSTRIAL PRODUCTS are fabricated in various steps and ways ultimately leading to the final decoration and finishing of the completed product. Lithographed metal containers are finished backward, as it were. The tinplate, aluminum or other material is first given the necessary coating of clear varnish or coating enamel, is then given the decorative lithographic design and a final varnish treatment. Interspersed are the necessary baking operations. The tin plate in its full glory is then ready for fabrication. Naturally, the protective and decorative finish has to be of an unusual character to withstand this production procedure.


A CONTAINER FELLOWSHIP!
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Rexall MILK of MAGNESIA TOOTH POWDER
Dental-Fix
EGYPTIAN HENNA
Epsom Salt
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Strips are cut from large tin plate sheet which has already been sized, coated and varnished. Above: Flat blank and first operation shell cut from strip on a punch press fitted with a combination cutting and drawing die. Below: Operations from left to right are redrawing, trimming and forming. These three steps are performed in one gang press

The sheets are coated by means of a roller coating machine. The coating or clear varnish is placed in the well and is fed onto a feeder roll and then a second roll (both of steel) which in turn deposits it on a composition roller. The bottom steel roller has a scraper arrangement to keep the material off the portion of its surface in contact with the sheet being coated. All sheets are coated on one side and then the other. The design is then lithographed over the base color.

The base coating must have good adhesion properties for obvious reasons. The drying qualities must be such that they meet the demands of various heats and drying times in baking ovens. Covering quality must be good for economical production, and have good flowing qualities to obtain the requisite smooth finish. The drawing qualities must be excellent to withstand the subsequent fabrication that is required.

The following are typical constituents (in varying percentages) of a white base coating: Zinc oxide, titanium oxide (either or both), synthetic resins, linseed oil, China-wood oil, mineral spirits.

Baking is necessary for adherence and also to insure that the coatings will stand the drawing operation. Furthermore, the ability to withstand surface abrasion is of considerable importance.

The forming operations on various can parts, after finishing—body, bottoms, breast tops, screw tops, etc.—all require special steps. It is also necessary to see that soldered cans are free from finish at the point of soldering. With crimped cans this is unnecessary.

The interior of fruit and vegetable cans requires different types of lacquer coating to withstand the action of the canned products. "C" lacquer, for instance, is for cans containing corn, fish, crabs, lobster, etc., to resist certain acid reactions set up by these substances. The regular "gold" lacquer is necessary for some other fruits and vegetables.

Metal ends for paper containers such as are used in household cleaners, are often finished with an alkali resistant material. Resistance to abrasion is greater in some finishes than others, and this quality has advantageous uses which make a selection advisable.

There are two types of finishing varnish applied as a final coating, after base coat and lithographing are completed—the ordinary white varnish and also a white processing varnish that has special steam and hot water resistant properties to withstand the severe action in cooking fruit and vegetables, after they are in the can.

SPECIALTY METAL CONTAINERS

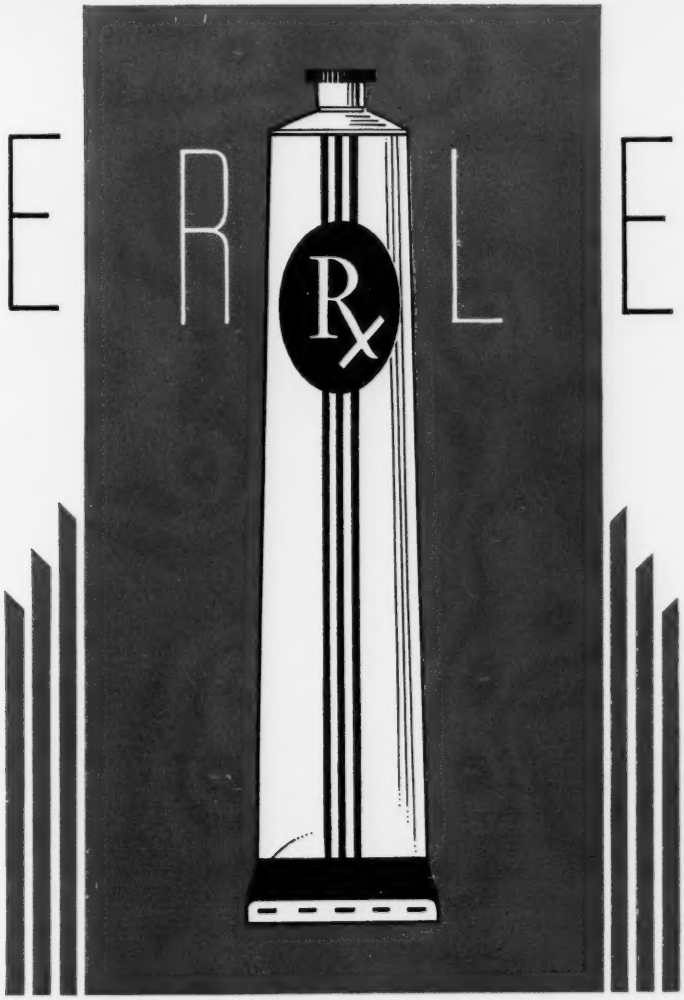
AMONG the items included under the general head of specialty metal containers are the following: triple compacts, double loosepacts, single compacts, rouge boxes, eyeshadow boxes, mascara boxes, lip rouge boxes, many sizes and styles of ordinary slide elevator lipsticks, swivel lipsticks, perfume dispensers and containers for packaged face powder. All of these items are finished in various ways such as combination of enamel and metal finishes, as polished nickel, chrome and brass, brushed nickel, chrome and brass, all having varying designs dependent entirely upon the customer's requirements and specifications.

There are also boxes of metal form covered either with leather, with water-proof fabric coated and grained to appear as leather, velvet or some other fabric, and lined with velvet or satin. Not only do these boxes provide ample protection for the articles contained, but they also serve as ideal displays.

Many articles such as delicate instruments, safety razors, measuring tools, sewing kits, cosmetics, manicure sets and medals are displayed in boxes which serve as permanent containers. In this field these metal boxes have an advantage for they are made of materials that will withstand constant use over a period of years.

About twenty-five years ago the jewelry trade was offered a box made with a metal form and with an auto-

PEERLESS



THE TUBE THAT LEADERS CHOOSE

Countless millions of Peerless tubes pass across druggists' counters bearing big names in the drug field—names like Mennen, Pebeco, Vaseline and hundreds of others with the same ring of authority.

These leaders have put Peerless tubes to actual sales tests . . . and have found that they *do the job.*

They have chosen Peerless tubes for quality . . . the quality of finer materials, of more careful workmanship, of superior design and lithography.

They have chosen Peerless tubes for dependability . . . the dependability that keeps sales appeal constantly alive and safeguards the manufacturer's own reputation.

They have chosen Peerless tubes for economy . . . the real economy that is measured in profits.

And they have chosen Peerless tubes for start-to-finish co-operative service . . . in design as well as in production.

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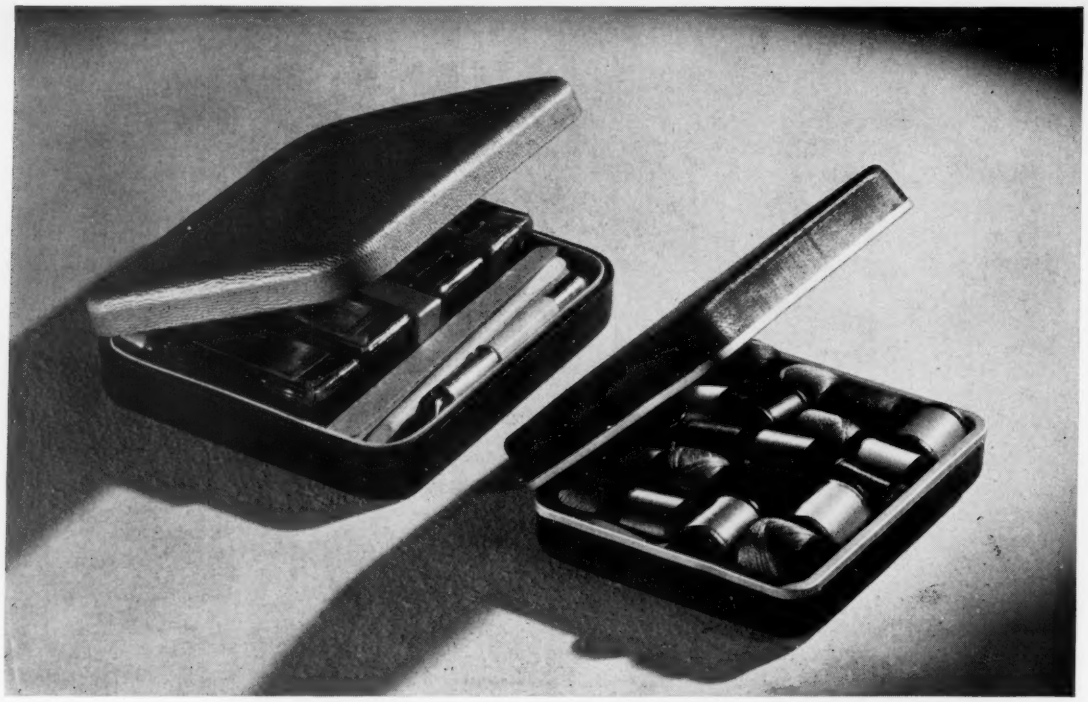
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Metal form cases, covered and lined with various materials—leather, imitation leather, velvet, etc.—and provided with spring hinges are available in many shapes and sizes. Illustration, courtesy of Farrington Manufacturing Company

matic spring hinge. The new boxes were covered and lined and had the appearance of expensive hand-made wooden form boxes but were offered at a price that jewelers had been accustomed to paying for lined paper boxes. At the same time a covering which simulated leather was perfected and available for use upon the metal form boxes. The new boxes appealed to the trade at once and became the standard of the jewelry trade in connection with low priced jewelry. Later these metal form boxes were perfected, the quality and appearance improved. Gradually the finer cases came to be used for high priced jewelry and watches. During the war, and immediately afterward, many millions of these automatic spring hinge boxes were distributed as containers for safety razors and most everyone became familiar with them. During the last few years the original box has been modernized.

The box shell is pressed into shape from a piece of thin steel. Special machines have been developed which cover the shell by pulling and stretching the covering material up over the sides of the box and down into the interior so that no seam or raw edge appears. A gutta percha tissue, such as a tailor uses, is laid between the covering and the shell. Heat in the operation of covering vulcanizes the Texol to the shell so that it stays securely in place.

After the top and bottom of the box have been covered the two parts are joined together by an automatic spring hinge. The linings of the box cover up the metal form and the raw edges of the covering. Recently this construction has been adapted to numerous shapes and styles including wide edges, extension top and bottom, and sloping top and bottom styles.

The styles vary from the plain dome top box to the wide edge colonial shape and the double step. Each can be decorated by the addition of gold tooling or plain or fancy metal edges, by metal bands and many other display accessories.

The patented wide edge box is an improvement over the wooden form colonial shape in that the wide edge



Types of specialty metal containers, finished in various combinations of enamel and metal finishes, such as polished nickel, chrome and brass, all having varying designs. Illustration, courtesy of Majestic Metal Specialties, Inc.

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2

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3

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The firm walls of a Victor aluminum tube protects the shoulder against sagging and maintains the original form of the tube throughout the course of packing, shipping, receiving, filling, repacking and all other handling until it reaches the consumer's hands.

4

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The specific gravity of aluminum is only 2.56. Your shipping costs on Victor aluminum tubes are therefore negligible. Particularly on larger sizes, this item is a factor worth considering.

5

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The prices of Victor aluminum tubes remain fairly constant within the course of a year, thus removing the speculative hazard.

Where aluminum tubes are not suitable for your product, Victor tin tubes are as fine in quality as it is possible to make them. We also manufacture a fine quality lead tube and tin-coated lead tube. Send us your tube problems.

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may be in a contrasting material and color to serve as a decoration when the box is closed as well as when it is open. A variety of effects can be obtained by the use of different edges, domes, toolings and colors and with various syles of linings. Exclusive styles are possible and even an exclusive size, when a very large quantity of boxes is required, may be obtained.

Covered metal form boxes will stand up under abuse. The fact that tools and machines are used for the various processes of manufacture makes necessary the use of coverings and linings which will stand pulling and stretching during manufacture. The metal shell itself is, of course, sturdy and strong. The covering must be strong enough so that it can be stretched down over the sides of the box, stretched over the edge and tucked down inside without breaking or wrinkling.

ALUMINUM CONTAINERS

ALUMINUM CONTAINERS formed by impact extrusion, have found numerous uses in widely varied fields. This type of container includes not only collapsible tubes but cans and bottles as well, shaped to fit various needs. Several of these appear in an accompanying illustration.

Extruded aluminum containers are available in diameters up to four inches. Slip covers or screw covers are employed, depending on the product. Various finishes are used. Where the natural color of the aluminum is desired, the container may be polished or ribbed. Interesting effects are secured through the use of lithography and with stop-off printing.

Frequently the containers are lacquered. Where a deep, lustrous surface is desired, the Alumilite finish, an electrolytic oxide finish, is applied. It provides the metal with an exceedingly durable coating which is able to adsorb both dye and mineral pigments. The resultant finish retains the inherent metallic sheen of the aluminum with an overtone of blue, red, green or any other desired color. Often pleasing effects are obtained in containers by the use of contrasting shades in can and cover. Glass and aluminum can likewise be employed to make a distinctive combination.

Radio condenser cans constitute an interesting application for extruded aluminum containers. Various types of beauty products have been marketed in aluminum cans. Chief use for aluminum bottles to date has been for shipment of essential oils.



A few of the many types of aluminum containers available


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XUM

FIBRE-BODIED CANS

by ARTHUR H. GRACE

THE FIBRE-BODIED CAN, as a unit package, has its place in the packaging field, as well as its limitations. While primarily adapted to dry packaging of food, drug, cosmetic and chemical products, there is hardly a dry product today, which employs a unit package, where a fibre-bodied can cannot be considered. From a cost standpoint the fibre-bodied can follows the middle road between the paper bag package and the all metal can or glass container, each classification having its individual respective fields, yet each over lapping in certain of the accepted uses.

While usually confined to the packaging of dry products, the fibre-bodied container also has its place as a temporary container for hot or cold liquids. Rapid strides are being made toward the development of a fibre-bodied can for lubricating oil and greases, paint and shortenings, but as yet this potential market has not been developed to any large extent.

Fibre-bodied cans are sometimes referred to as paper cans. The accurate, technical, term should be "fibre-board" cans; custom has established "fibre" cans as the accepted nomenclature.

In developing a fibre can package, the cubical capacity required for the product must first be established. Next, the shape of the package which will best serve the purpose, not only from the standpoint of the package itself but also from the consideration of shelf display space; then the style of top for dispensing purposes. Custom establishes rather definitely the sizes and shapes required for certain types of products, unless there is a specific desire to vary the established practice.

The round shaped container continues to enjoy immense popularity, practical usage necessitates other shapes, which are being adopted for various products.

There are two distinct types of fibre-bodied cans: one, a fibre body fitted with *fibre* ends; second, a fibre body

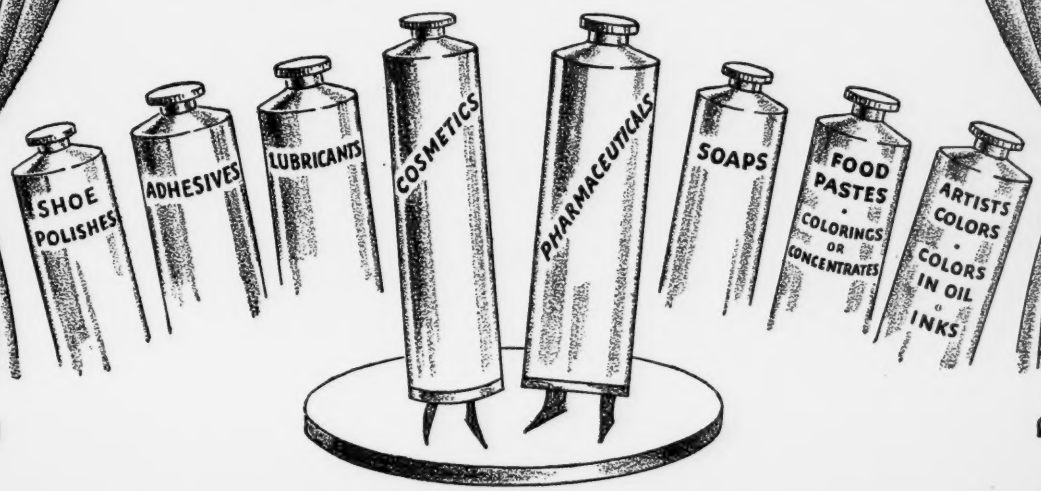


A few of the types of fibre-bodied cans. Top row, left to right: Square base, metal ends, solid top and bottom; oblong base, metal ends, seamed bottom, perforated top; oblong base, metal ends, solid oval friction top; oblong base, metal ends, seamed bottom, slip-on cover. Lower row, left to right: Round base, metal ends, seamed bottom, perforated top (single hole); oval base, metal ends, seamed bottom, seamed top with friction cap; round base, metal ends, seamed round (solid) friction top; round base, straight wall, fibre ends; round base, straight wall, slip-on fibre cover

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fitted with *metal* ends. There is a third possibility, a fibre body fitted with one fibre end and one metal end. The all-fibre end can is restricted from a manufacturing standpoint to either a round or oval shape, whereas the metal end can, can be made in almost any shape desired, provided the manufacturer has the necessary equipment and dies to construct that particular size and shape.

After full consideration has been given to the size, shape, etc., the question of label design bears a most important angle on the package appeal and shelf display appearance. Can manufacturers do not make or print labels—they merely apply them to the package when required. There are some minor exceptions. Label layouts are furnished without charge, as to size, panel spacing, trimming and other details, but all art work design and printing is a printing problem. Different methods of construction of the can bodies require different label application. This will be discussed later.

Fibre cans are not carried in stock but made to order for the individual requirements. Specifications vary, and where labeled cans are involved, carrying a stock would be particularly impractical. A few manufacturers carry in stock certain round all fibre cans commercially known as drug packers, for standard capacities of drugs and chemicals; also mail cases for bottled liquids, made to accommodate standard R bottles.

The time required for the manufacture of cans varies with different manufacturers. Generally speaking a week to ten days is sufficient time to produce any order although there are times when a shorter or longer period of time may be required.

Few changes of importance have been made recently in the manufacturing process of fibreboard bodies, aside from installation of speedier and larger machines capable of producing an increased volume, as well as larger sizes. In no case can the body wall of the can be tapered, as only a *straight side wall* can be furnished in any so-called fibre-bodied cans.

There are two general methods of manufacturing fibreboard can bodies. The most commonly used is the laminated can body. With the other the body is formed —generally referred to as the English method. The laminated can body is divided into three different types of construction: first, a spirally strip wound body; second, a convolutely (straight) strip wound body and third, a convolutely sheet wound body.

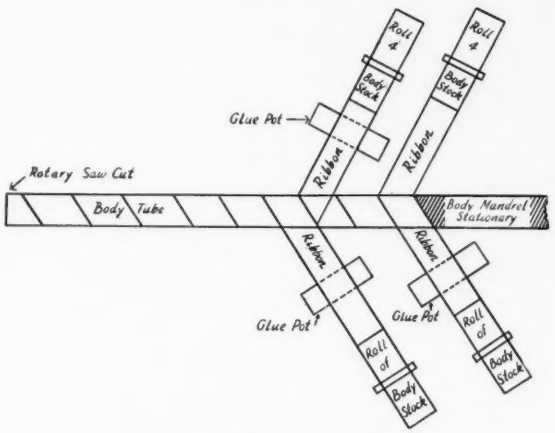
All can bodies are constructed of fibreboard. The kind of board used as well as the point thickness of the body wall is determined by the type of construction desired for the nature of the product packed.

Fibreboard for laminated can bodies is purchased by the can manufacturer in so-called jumbo rolls, which are slit to ribbon widths except in the sheet method and English method. (The width of the ribbon is a manufacturing detail and is governed by the size and the height of the can body.) This ribbon of fibreboard is fed automatically onto a body winding mandrel, conforming in size and shape to the customer's package requirements, the exact dimensions of this winding mandreal determining the *inside* dimensions of the can body and conforming to the base size and shape of the customer's specifications. The height of the can body can be adjusted to the individual requirement subject, of course, to manufacturing facilities available. From a manufacturing standpoint, costs of manufacture for a convolutely wound body are higher than for a spirally wound body.

Spiral Body Winding, Ribbon Method

Spirally wound can bodies are usually manufactured from a fibreboard commonly known as straw chip. Straw board, straw chip, chip board, news board and test liners are some grades of body stock used, as well as manila-lined stock or coated-one-side stock, depending on the customer's specifications or based on the nature of the product to be packaged.

Each laminated can body consists of two or more plies of fibreboard. Each ply being a separate unit permits of variation in the nature of the stock used as well as the caliper point thickness of each ply. Spirally wounds cans are usually made from stock ranging in



Spiral body winding, ribbon method

caliper thickness from .008 point to .040 point, the total body wall thickness depending on the number of plies of stock in the body and the caliper point thickness of each ply. While manufacture has standardized the usual requirement as to caliper thickness of each ply of board used, as well as the number of plies of fibreboard and the total body wall thickness required, all of these may be varied as conditions necessitate. To illustrate: A 0.24 point body wall can be wound in 3 plies of .008 point stock, 2 plies of .012 point stock, or 1 ply of .016 point stock and 1 ply of .008 point stock.

Ribbon widths of the fibre used are automatically fed into the winder from angular positions, onto a body winding mandrel the size and shape of which corresponds to the base area of the specifications given. The different plies of fibreboard are wound into a continuous tube form approximating 40 to 50 in. in length and are held together by adhesives of various kinds. The tubes are then cut to sizes corresponding to the height of the container which is desired.

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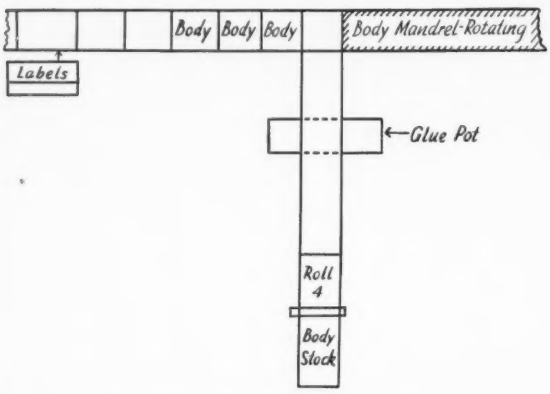
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Spirally wound can bodies are usually made with a so-called "straight" side wall. Where a slip-on cap is used—either fibre or metal—a recess is sometimes provided at both ends of the body, in order that the cap may fit flush with the can body, permitting of smooth hand or automatic label application. This recess is provided in either one of two ways: (1) Jacketed. A portion of the outer ply of the body wall, about 1/2 in. in width, is stripped off both ends of the can body; or (2) necked in. Both ends of the can body are subjected to pressure, about 1/2 in. in width. Thus a spirally wound can body can be furnished with: (1) A straight wall; (2) a jacketed wall; or (3) a necked-in wall. Either drawn fibre caps or drawn metal ends can be applied to these can bodies.

Convolute Body Winding, Ribbon Method

Convolutely wound can bodies are made from one single and continuous sheet of fibreboard, cut into ribbon widths equivalent to the height of the can requirement. The nature of this board differs from that used in the construction of spirally wound cans in that the quality is usually of a higher grade and the caliper thickness does not exceed .012 to .016 point. The stock generally used is can fibre, each manufacturer having his own grade of special stock for this particular type of fibre can construction.

One ply is wound directly upon another and each ply is laminated to the other by adhesives of various grades.



Convolute body winding, ribbon method

The winding mandrel conforms in size and shape to the base area of the customer's package specifications, usually only one can body being wound at a time. The different plies of the can body are not interchangeable; the construction is definitely fixed by the nature of the stock used—which stock, however, might be a duplex or a laminated sheet, where special body construction is required for the container.

As mentioned before, a convolutely wound can body can be made in any shape required, whereas a spirally wound can is obtainable in the round and oval shapes only. A convolute can body is more rigid than a spiral body and can be automatically labeled at the time the can body is wound. As in the case of spiral cans, either drawn fibre caps or drawn metal ends can be applied to convolute can bodies, fibre ends being restricted to round or oval shapes.

Convolute Body Winding, Sheet Method

Another method not as general is the sheet method. These bodies are laminated sheets, one ply directly on top of the other, the width of the sheet being determined by the ply wanted, the length by the number of can bodies wound at one time. All widths are even plies from 2 to 10 plies. The length of the sheet is determined by the height of the can to be wound. These sheets, plain or printed, after skiving or feathering of one edge, are then pasted on the plain side, all but the first lap, which is unpasted. The sheets are put on a revolving rack and then are wound onto a steel mandrel in any diameters required. The skiving process is used so that starch or cold water flour paste can be used instead of prepared or hot glues. From this point on, applying of fibre or metal ends is the same operation as for other can bodies.

The fourth method usually confined to irregular shapes originated in England and has been used in a restricted way in this country. Various types of board, plain or printed, of the caliper thickness required for the body wall are fed automatically onto a body forming mandrel much the same as tin can bodies are formed. The ends are sealed together by a fibre or metal strip, a patented process. The application of printed labels to this type of body differs from other methods of construction in that printed labels, if used, must be applied first to the sheet prior to the body forming operation. Ends are applied in the same manner as outlined later for other types of construction.

Body Treatment

Because of the nature of some products, it is necessary to treat the fibre can body to make it moisture-resistant and to make it capable of resisting body penetration. This can be done in two ways: first, through the use of body-liners, and, second, through the use of various preparations, both of which effect satisfactory results in every case.

Various kinds of liner papers can be used, the exact stock to be used depending on the requirement. Glassine, parchment (genuine or imitation), grease-proof, kraft, metal foil and others are used for liners to furnish resistance to body penetration. Gelatin, paraffin, asphalt, resin and other similar substances may be used to make the container moisture-resistant. These materials may be used between the plies or may be applied to an individual ply at the time the body is wound. The can bodies may also be treated through other processes, such as those employed in dipping, spraying or impregnation of fibre.

While the selection of a spirally wound can may prove a disadvantage because of the restriction to the round

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or oval shape, a distinct advantage of this type over other methods of manufacture is the fact that various kinds of liner paper can be automatically wound into the can body at the time the cans are manufactured, the liner being applied to the mandrel first and forming the inside ply. In other types of construction the liner must be laminated to the body stock before being wound, the liner encircling the can body the same number of times as there are plies of fibreboard in the can body.

Where body treatment is required, consideration must also be given to treatment of the ends of the container. Fibre ends can be given much the same treatment as fibre bodies, as outlined above; but when metal ends are used treatment is rarely necessary except for special conditions that have to be met.

Can Ends, Fibre

From a manufacturing standpoint, can bodies fitted with drawn fibre ends are restricted to two shapes: round and oval.

Fibre ends are drawn from cap stock (so-called) especially made for the purpose. The nature of this stock differs from the body stock and the caliper thickness varies from .020 point to .040 point, the size of the container governing the caliper thickness of the stock used. Cap stock may be obtained in various standard colors to meet requirements.

Caps are drawn under pressure, moisture and heat, the size of the cap conforming to the size of the can body wound. Varying atmospheric conditions tend to affect fibre caps when drawn, unless immediately applied to the container body upon completion.

One end is usually glued onto the can body and the other slipped on loosely, to be replaced after the container is filled. An identifying mark on the can body usually indicates which end has been glued on.

Fibre caps may be embossed, and in certain instances printed, when drawn with various designs of embossing, where embossing dies have been made. When body treatment is required, it is usually necessary to treat the fibre caps also. As has been previously stated, this may be done in much the same manner and method as described under the body treatment. Caps may be lined with various types of paper to afford resistance to penetration by laminating the liner to the cap stock before the caps are drawn; or caps may be treated with paraffin, gelatin, resin, asphalt, and other preparations to secure moisture resistance.

Sheet metal of varying caliper to suit the individual requirement is cut into ribbon widths from standard or special sheet sizes, the sheet size conforming to the ribbon width required and advantageously cut from the full sheet of the metal.

Metal ends are stamped out of the ribbon widths in sizes to fit the can body, one end usually being seamed on (or crimped on) to the body. The other end is shipped separately, to be slipped on or seamed on after the product is packed.

Metal ends are usually made from tin plate, which may be plain, lacquered or coated, one side or two sides, depending on the appearance desired. Metal ends can be embossed, where dies are made, at the time of stamping out. Because of the nature of the product packed, some metal-end containers must be sanitary-lacquered inside. This protection can be obtained in every instance in which it may be required for such products.

Where large quantities of cans are involved, seaming machines are usually furnished to the customer by the manufacturer, on a yearly contract rental basis. Where small quantities are involved and both ends are to be seamed on (closed), a small friction opening is left in the bottom of the can, through which the can is filled and the opening closed by a metal plug.

The use of fibre-end cans is also restricted in that few types of fittings can be furnished with a fibre top. Aside from a solid top, the most commonly used fibre-end can is the spout top as on a salt can. A perforated top or a perforated undercap can be supplied as well as a metal plug top; however, usage is limited.

Various types of fittings have been devised for metal-end cans, certain fittings being accepted as standard for certain types of products.

Labels and Wrappers

The question of when and how the can is to be labeled should receive attention when consideration is being given to the type of construction desired or required. For obvious reasons, practically without exception, all labels are furnished by the customer but are made up in accordance with specifications furnished by the manufacturer. Laminated can bodies cannot be printed or lithographed.

Decorative papers, not printed, can be used as wrappers for the outside ply of spirally wound cans. These papers are usually furnished in roll form, are slit to ribbon widths and are applied to the can body in continuous form when the ribbon method is used.

Printed labels for spirally wound cans, when supplied by the customer and applied by the manufacturer, may be machine or hand applied—either singly or in strips. The number of labels to the strip is determined by the number of can bodies wound in tube form at the time of winding the body. When in strips, the labels are applied to the tube form after the body is rolled but before slitting to size and the ends are put on. Recent developments permit of automatic machine application of printed labels to spiral wound can bodies after the body is wound. Printed labels can be applied automatically to cans after filling—which operation is advantageous in the case of certain types of cans—and particularly when the same type of can is used for packaging a number of different types of products.

Convolutely wound cans can be automatically labeled at the time the can body is wound. Whether a decorative or printed label is used is immaterial as long as the nature of the stock does not conflict with manufacturing specifications. Labels for cans of the convolute type of construction are furnished singly, cut to size.

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Separate labels for the sheet method or English method are applied to the fibreboard before the body winding operations either singly or in sheets depending upon the type of construction.

The paper stock used for labels in all cases should conform to a uniform basic weight, not heavier than 25 × 36–60 lb. stock, and ungummed. Coated-one-side litho label or any plain unfinished book paper will serve the purpose as a general rule.

Any design or color may be used in printing labels. They may be plain or varnished, just as long as the size and specifications conform to the manufacturer's layout, which will be furnished without charge.

Local freight shipments necessitate cans being packed in standard fibre shipping containers, varying in size to accommodate the wide range of sizes and styles manufactured. The number of cans packed in each container varies although, generally speaking, large-sized—in some cases, over-sized—containers are used because of the light weight involved. Naturally the smaller the number of cans packed to a container, the larger the number of shipping containers required. Sometimes a special container pack is required. For example, where it is necessary to pack for reshipment. This involves special containers, made to specific size. In carload shipments, cans can be packed in fibre shipping containers, but the most economical way is to pack in large heavy kraft paper bags.

Fibre Tubes

From a packaging standpoint, tubes, which are usually spirally wound but may be convolutely wound, are of interest, largely for mailing posters, calendars and similar material. For this they are ideal. Kraft paper ends which tuck in and prevent the contents slipping out are put on when required. Two, three and four ply tubes are most commonly used. To fill unusual requirements in the mailing field and in that field where fibre tubes function as component parts of a package, they are made of any number of plies up to fifteen. Diameters range from less than one-half inch to twenty inches. Papers and boards of all kinds, ranging in thickness from 0.003 to 0.040 may be used. Special characteristics are developed by the selection of the adhesive, such as animal glue, asphaltum, etc., and by dipping or spraying.

Fibre Cans for Lubricating Oils

Definite progress has been made during the past year in commercially producing a fibre bodied can that will satisfactorily package lubricating oil. However, there are numerous problems to be worked out before it can be considered for general usage. Numerous types of fibre-bodied cans, involving different construction, have appeared on the market. So far as actually being successful is concerned this remains doubtful as, as yet, the percentage of so-called "leakers" is too great to be commercially satisfactory.

The quart size is made in two or three styles: one duplicating the style and size of the standard one quart all-metal can; second, a tall narrow container with perpendicular sides, 3 in. in diameter and about 10 in. tall, and third, a conical side wall container of similar dimensions. Most bodies are laminated fibreboard but in some instances a single ply of fibreboard is formed into the shape which is required.

Operations in the manufacture of the laminated type of container are similar in detail to standard methods of construction used throughout the fibre can industry. Fibre bodies when laminated are rolled either spirally or convolutely and fitted with ends either fibre or metal. At present, the larger percentage of these new packages appearing on the market are of spiral construction involving the use of fibreboard either treated or lined with a special liner stock. Convolute construction usually involves the use of treatment only, no additional liner stock being used.

Liner stocks, in spiral wound bodies, are usually a thin layer paper of approximate writing paper thickness rolled either one or two plies, with overlapped or interlocked seams. In some instances, for illustration, parchment paper has been used.

Treatment of the board itself is done in one of several ways or a combination of methods. A liquid solution is generally applied which dries but does not set, forming a coat or seal on the inner surface of the can body. The fibreboard in some instances is treated prior to being rolled into a can body, the solution is sprayed into the body after it is rolled, or the can body is dipped into the solution. In some instances the raw ends of the can body or the inside seam of a convolute body, are specially treated with the same or a similar solution as the can body. Other methods of treatment are being developed but the above are the most common.

On fibre can bodies, metal ends are generally used, but fibre ends are being tested to permit complete disposal of the can when emptied. The metal used is either terne plate or tin plate. Numerous application for patents have been applied for on different types of ends, but in most instances these have been in use in the can industry for years. The customary method is to draw the end with a deep recess having a large flange clinching the metal end to the body wall by special methods in addition to seaming to prevent wicking. Most metal ends are solid—both top and bottom. Sometimes, however, a small opening is provided in one end through which the can is filled and closed with a patented seal. Except in this case, one end of the can is seamed on at the factory, the other being seamed on when filled. The usual closing machines are rented or purchased for this purpose, these machines being the same as for the all metal cans. The metal ends are usually stamped with the viscosity number of the oil. Labels are applied either automatically at the time the can body is wound or labeled automatically after the can is filled.

Among the several advantages which are claimed over the present all metal container, are lower cost, lighter weight and easy disposal.


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COLLAPSIBLE METAL TUBES

by W. M. ROSE

COLLAPSIBLE TUBES have been in use for a century. In the United States, today, they are consumed to the number of a half-billion annually. Considering these facts, a natural deduction would be that this form of container is highly standardized, fully developed, thoroughly exploited. Such a conclusion would be almost wholly wrong. Some standardization, as evidenced by the appended tables, has been achieved. Improvements in tubes and their appurtenances are continually being made. New uses are constantly being found. Fortunately, the manufacture of tubes is sufficiently flexible to permit of frequent and rapid changes to conform to design trends, changes in quantity-price policies and special merchandizing and sales promotion plans. This feature of manufacture has been so highly organized that tubes can be shipped to the buyer within a few days after the artist has completed his drawings for the design to be reproduced on the tube.

Since there are some sixty different "standard" sizes, seven "standard" neck sizes, six "standard" types of neck openings, seven "standard" types of caps, five "standard" types of sealing, five different cap materials, four body metals and a dozen other minor variables, there is an infinite number of tubes that might be classed as standard. In addition, each printed design is different and only a few "stock" designs are in use.

With practically no exceptions, each order for decorated collapsible tubes is "special," requiring changes extending from metal foundry to box-making, including "set-up" of extrusion machines, replating, washing and re-inking decorating machines and restocking all operations with the materials appropriate to the particular tube to be manufactured.

No one type of container can fulfill the requirements for packaging all the different types of products. While it is quite true that collapsible metal containers have recently been successfully introduced as containers for effervescent salts, liquids, tablets and powders, the field in which collapsible tubes are of greatest service and use is that of products in plastic form: toothpastes, cosmetic creams, shaving creams, ointments, adhesives, toilet creams, polishes and the like. In special forms and with special applicators, they are preeminent in the application of medicaments to the eye, the nasal passages and other body cavities and in the application of adhesives and lubricants.

From the standpoint of customer convenience and assurance, collapsible tubes possess qualities which no other type of container has. Proportion and shape promote ease of handling. The screw-top closure not only provides an effective seal and reseal for the protection of the tube's contents, but is easy to manipulate. Tubed products may safely be used by more than one person, since the product is adequately protected from contamination and the unused part of the product does not come into contact with fingers or other applicators that may carry dirt or infection. There is no danger of breakage or cutting by sharp edges. As tubes are not refillable, the customer may be assured that the contents are genuine, unadulterated. Since the volume of the product is easily discernible by inspection of the outside of the tube, the buyer is assured as to the full weight or quantity. He knows what he buys when he buys it.

From the standpoint of the product manufacturer, tubes have much to commend them. In addition to relatively light shipping weight, and elimination of breakage, the problems of labelling and capping are solved by the fact that these operations are done by the tube manufacturer. Filling, sealing and cartoning may all be performed on machines that are largely automatic, so that "finishing" and packing labor costs are extremely low.

There is no great trick in drawing tube specifications. The dimensions are determined by the amount of product it is desired to pack or by the size of tubes used in similar price lines by established competing products. The size of the neck opening is, in large measure, determined by the plasticity of the product and the quantity ordinarily used in one application. Thus, "brushless" shaving creams are packed in tubes with large openings, opthalmic ointments in tubes with pin-hole tips. The fact that large neck openings tend to bring about a more liberal use of the product has possibly influenced the selection of the larger openings. Cap selection is based more upon personal opinion than on mechanical considerations. While the difference in cost of various materials has a direct bearing on the question, appearance is often the deciding factor. With these factors determined, the remaining, and possibly the most important point is wall thickness. This dimension determines the amount or weight of metal in the tube, and upon this depends the sturdiness of the container. Defects in the metallic structure of tubes are generally in the form of pin-holes or cracks—"splits"—in the metal, and these defects are inherent in tubes made with walls too thin to be practical from the standpoint of manufacture or of use. It is poor economy to attempt to reduce package cost by "skinning" wall thickness.

The original use of molded plastic caps was, to a large extent, influenced by the desire of a large tube buyer to improve the appearance of his package. Except when the price of tin is abnormally low, the cost of molded caps compares favorably with tin, especially in the larger

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Dominant position in our own portion of the tin-container field, enables us to offer you a unique type of service plus economies not otherwise obtainable.

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sizes. Molded caps are available in several sizes of stock patterns with round, hexagonal or octagonal top flanges. They are also to be had in a shape that is similar to that of molded bottle caps. Specially designed caps are also used on many products. Cap materials include the phenolic plastics—Bakelite, Durez, Resinox—in black, brown and darker shades of red, green and blue, and urea plastics—Plaskon, Beetle—in white and many light shades and tints, as well as the darker colors. Molded caps may have "ball" or "plug" seats, requiring no cap liners or, like metal caps, may be provided with liners of plain composition cork, foil-faced cork or cork or felt faced with black or brown alkali-resistant paper.

SUGGESTED TYPE OF TUBE FOR VARIOUS PRODUCTS

	Tin	Lead	Tin-Coated	Aluminum
Tooth Pastes	*			*
Shaving Cream	*			*
Cold Cream	*			*
Vanishing Cream	*			*
Cosmetics	*			*
Depilatories	*			
Vaginal Jellies	*			*
Ointments	*			*
Food Products	*			*
Artists' Colors	*	*	*	*
Paints	*	*	*	*
Tinting Colors	*	*	*	*
Inks		*	*	*
Glue		*	*	*
Pastes		*	*	*
Adhesives		*	*	*
Cements	*	*	*	*
Belt Dressing		*		*
Engine Compounds		*		*
Greases		*		*
Stain Solvents	*	*		
Hand Soaps	*			*
Leather Softeners		*		*
Insecticides		*		
Rat Pastes	*	*		

In general, specifications for collapsible tubes require the following data to be complete:

Dimensions:	Diameter at the shoulder; length from shoulder to open end.
	Size of neck or diameter of neck opening.
	Wall thickness at shoulder.
Weight:	Weight of metal per gross.
Cap:	Material and type of cap; type of seal or liner.
Decoration:	Shoulder embossing, if any; coating and number of colors in printed matter.
Metal:	Tin, tin-coated lead, lead or aluminum.

Reasonable manufacturing tolerances should be allowed in diameter, length and weight.

The cylindrical shape of collapsible tubes is dictated by the method of manufacture and the method of closing and sealing. Possibilities of variation in structural design are, therefore, nil. Design enters into the appearance of the cap and the embossed decoration on the shoulder, but it is in the label that creative design has full opportunity. This opportunity is being availed of more and more as the value of sound design to sales has become increasingly apparent. While the fixed cylindrical shape imposes certain limits, these are the only limitations. Label designs may be of any character capable of reproduction by zinc etching, photogravure or half-tone. "Decoration" may be printed in from one to four colors on a white or tinted coating and, by the use of process plates, additional tints can be secured. The brilliant metallic surfaces currently so popular can also be produced on tubes with a high degree of fidelity. To equal the brilliance of lacquer-coated printing on paper, a similar coating, which is also alkali-resistant, may be applied over tube decoration. Recent trend in tube design has been toward simplification, the use of modern types of lettering, simple color combinations. On the theory that the sale of the product is accomplished before the individual carton is opened, the amount of type-matter on tube labels has been greatly reduced, many recent redesigns having only the name of the product, that of the manufacturer and the simplest of directions, all crisp, clean cut and easily legible. Modern collapsible tubes have all of the elements of sales-compelling attractiveness possessed by other types of containers in the packaging field.

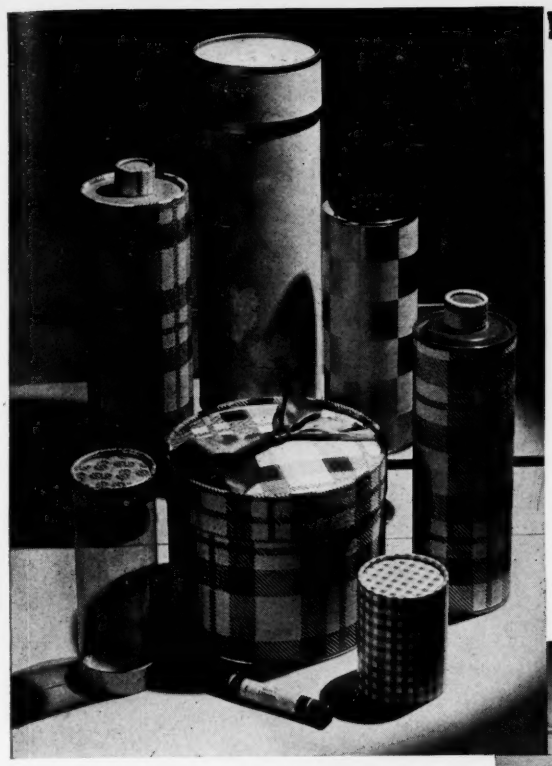
STANDARD SIZES AND CAPACITIES OF TIN, TIN-COATED, LEAD ALLOY AND ALUMINUM TUBES

Diameter x Length	CAPACITY Fluid Ounces	C.C.	Usual Opening and Neck
3/8x2	3/4 dr.	2.77	No. 8
1/2x2	1 1/2 dr.	5.54	8-10
1/2x2 1/2	1 3/4 dr.	6.47	8-10
1/2x3	2 dr.	7.39	8-10
1/2x4	2 3/4 dr.	10.17	8-10
5/8x3	3 dr.	11.09	10-12
5/8x3 1/2	3 1/2 dr.	12.94	10-12
5/8x4	4 dr.	14.79	10-12
3/4x3 1/2	5 dr.	18.48	12-14
3/4x4	6 dr.	22.18	12-14
7/8x3 1/2	7 dr.	25.88	12-14
7/8x4	1 oz. 0 dr.	29.57	12-14
7/8x4 1/2	1 oz. 1 dr.	33.27	12-14
1 x4	1 oz. 2 dr.	36.97	16
1 x4 1/2	1 oz. 4 dr.	44.36	16
1 x5	1 oz. 6 dr.	51.75	16
1 x5 1/2	2 oz. 0 dr.	59.15	16
1 x6	2 oz. 2 dr.	66.54	16
1 1/8x4 1/2	1 oz. 6 dr.	51.75	16
1 1/8x5	2 oz. 0 dr.	59.15	16
1 1/8x5 1/2	2 oz. 2 dr.	66.54	16
1 1/8x6	2 oz. 4 dr.	73.93	16
1 1/4x4 1/2	2 oz. 0 dr.	59.15	16-20
1 1/4x5	2 oz. 3 dr.	70.24	16-20
1 1/4x5 1/2	2 oz. 6 dr.	81.33	16-20
1 1/4x6	3 oz. 1 dr.	92.42	16-20
1 3/8x5	3 oz. 0 dr.	88.72	20-28
1 3/8x5 1/2	3 oz. 4 dr.	103.51	20-28
1 3/8x6	4 oz. 0 dr.	118.29	20-28
1 1/2x6	4 oz. 4 dr.	133.08	20-28
1 1/2x6 1/2	5 oz. 0 dr.	147.87	20-28
1 1/2x7	5 oz. 4 dr.	162.65	20-28

Note:—It is possible to obtain even the smallest neck (No. 8) on the largest tube and also a large neck on small tubes (within limits so that the cap does not come within 1/16" from the diameter of the tube). Write us for special information regarding non-stock necks and sizes.

A classification of collapsible metal tubes may be summarized as follows:

1. Pure tin tubes, are made of new virgin tin, alloyed with a small amount of copper or other suitable stiffener, in minute quantities. No adulterant such as lead or



CLEVELAND CONTAINERS

A complete line

of ROUND BOXES, POUCHES

and specialties for

COSMETICS and TOILETRIES



UTILITY CONTAINERS

Round paper boxes, diameters from $^1/_2$ inch to $7^5/_8$ inches, plain and semi-perforated. Capacity $^1/_4$ oz. to 10 lbs.

COMBINATION STYLES Tin and Paper

Plain top, semi-perforated sifter top, and friction plug style, diameters from 1 to 6 inches. Capacity $^1/_4$ oz. to 10 lbs. Also TELESCOPE MAILING CONTAINERS and Display Tubes.

SQUARE TUBES **PRINTED TUBES**

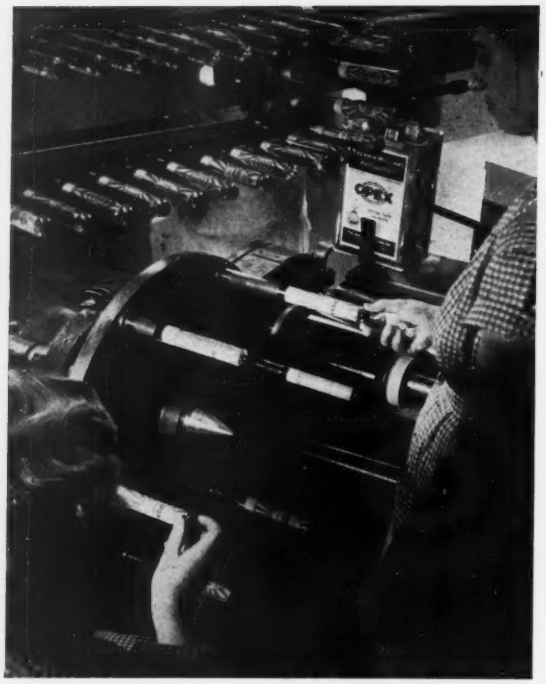
Let us help you to achieve greater display and sales values at lower cost. Write or wire our nearest representative.

THE CLEVELAND CONTAINER COMPANY

10630 BEREA ROAD CLEVELAND, OHIO

Plants:—New York, Philadelphia, Wilmington, Detroit, Cleveland, Chicago, Plymouth, Wis.

Adhesive Div.—Brooklyn, N. Y.



Tooth paste tubes receiving their final protective coat of protective lacquer. It is this special lacquer which prevents soap, warm water and chemicals in the medicine chest from dissolving or discoloring the finish on the tube. The tube finish must also stand bending and abrasion without chipping or peeling of the surface

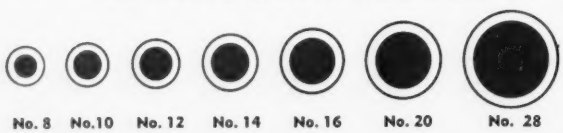
other soft metals is used in these tubes and they are essentially for use for any product going on or in the human body. Tin tubes are light, strong and durable; chemically inert; and perfectly suited as sanitary containers for foods, cosmetics including tooth pastes, shaving creams and other products which are intended for personal use.

2. Aluminum tubes are lighter in weight and slightly stiffer than tin. Aluminum tubes require some research in the adaption to certain products, particularly those containing alkalies, but in general, they cover the same field as tin collapsible tubes.

3. Lead tubes, known as lead alloy tubes, are made of pure lead with antimony or tin and antimony, and chiefly used for adhesives, shoe creams, rubber cements and articles where the contents will not be used on the human body.

4. Tin-coated tubes having a lead alloy base with an even distribution of thin coating of tin on the inside and the outside, are made in such a manner that the two metals cannot be separated. These are the heaviest weight tubes and seem to be declining in volume steadily in the collapsible tube field as the final appearance is not as good as pure tin or aluminum.

NECK SIZE AND OPENING—ACTUAL SIZE



Neck Size	Diameter of Thread	Actual Opening
No. 8	.220″	1/8″
No. 10	.250″	5/32″
No. 12	.280″	3/16″
No. 14	.330″	7/32″
No. 16	.375″	1/4″
No. 20	.438″	5/16″
No. 28	.563″	7/16″

Ribbon, pinhole or diaphragm (Blind end puncture type) can be furnished as an alternate opening to the plain round type on all neck sizes except in aluminum. Special data supplied on this metal.

CAP TYPES IN METAL OR MOLDED PLASTIC



As the price of metals form a considerable factor in the cost of making collapsible tubes, it is impractical to issue a price list as the metal cost fluctuates frequently and price adjustments are necessary.

Special Types of Tubes

Among various types which have appeared is the calibrated tube; also collapsible tubes for a variety of uses, which in the past were restricted to other types of containers, have been introduced. These have been used for such products as polishes, nose drops, gum massage jelly, certain food products, and automobile waxes. The shoe polish and wax products are packed in pure lead tubes, whereas the other products require that pure tin tubes be used.

In the large volume field such as tooth paste and shaving cream, there has been a certain trend towards the larger bottle type of cap in certain instances, and due to the progress in the molded cap field, a variety of colors including the much demanded white has been possible and in active demand.

Another new product packed in collapsible tubes which has reached a considerable volume is the cream mascara. Whether or not this will be a staple and permanent item remains to be seen, but so far the volume has been considerable. There have been several products for the nails also packed in collapsible tubes, nail polishes and nail polish removers. These have been packed in the nasal tip type of tube. The volume of collapsible tubes for samples on the radio has steadily increased. Several companies have packed rouge paste in tubes. There has also been an increase in the volume of tubes used for products stopping runs in stockings.

In the large volume field such as tooth paste and shaving cream, there has been a certain trend towards the larger bottle type of cap in certain instances, and due to the progress in the molded cap field, a variety of colors including the much demanded white has been possible and in active demand.

Melco QUALITY ROUND CONTAINERS.
STOCK DESIGNS FOR CANDIES, CAKES, NUTS & FRUITS, ETC.

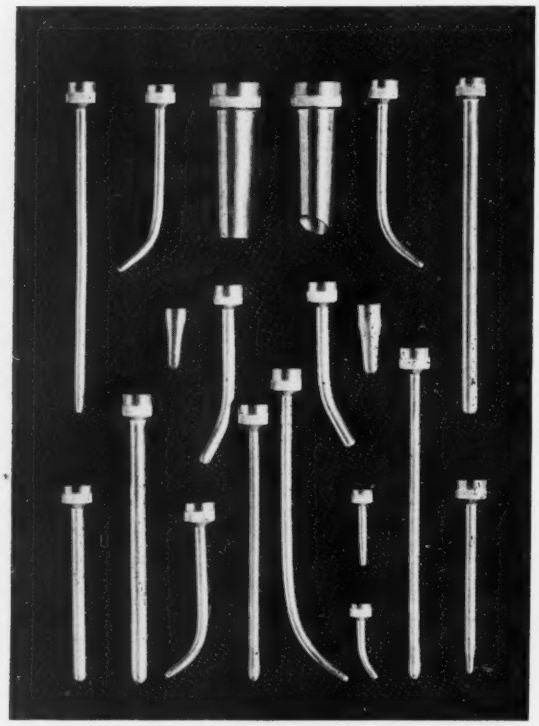


APPLICATOR TUBES

IN ADDITION to the standard types of collapsible metal tubes, detailed in a previous article, there are available for various purposes certain applicators which may be applied separately to tubes, and others that are integral with them. Among these are the following:

Eye tip: Eye tip tubes are often called opthalmic tubes and are used for eye preparations. These are available in tin or lead, and tin tubes are recommended for use if the preparation is to be used on or near the eye. Lead is only suitable for light lubricants or similar use in conjunction with eye tip tubes.

Nasal tip: Nasal tip tubes are made in different types and are supplied in tin or lead, with tin tubes suitable for nasal jellies, ointments and any other preparation



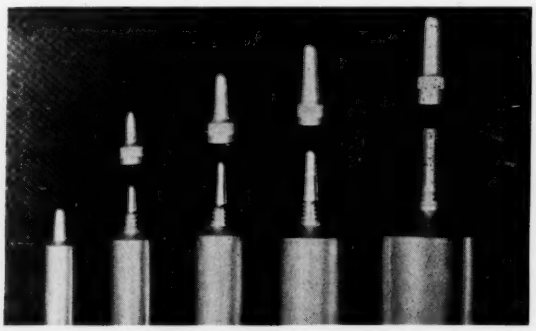
Applicator pipes or tubes for miscellaneous purposes. Each, as may be seen, is provided with a screw thread for attaching to the opening end of the tube

used on or in the human body, and with lead nasal tip tubes supplied for oils, greases, rubber cements and other commercial purposes.

Screw eye: Screw eye tubes are furnished in tin, lead or aluminum and are suitable for rubber cements, pyroxylin cement, adhesives of all kinds and for similar commercial uses.

Plug, pin, etc.: Special tubes are made with heavy conical shaped plugs as a closure, and also with pins for insertion in the neck. These types are used chiefly with adhesives, library pastes and similar products.

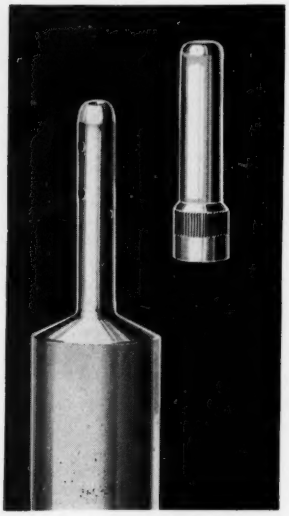
Pile pipes: Pile pipes are available in pure tin or aluminum in sizes which fit standard necks and are obtainable with either side or end openings or both. Other special types of pile pipes, vaginal pipes and applicators are also available.



Stip openings or tips which can be supplied on various sizes of tubes: prophylactic, ophthalmic (eye), nasal (2) and for lubricants, in order shown

Applicator tubes: A recent development is a self-contained applicator tube which is especially suited for pile ointments and combines the separate tube and pipe in one package. In this there is no separate applicator to become lost; there is nothing to attach and the container is ready for instant use, and a long slip cap covers the applicator, keeping it free from dust and dirt.

Vaginal pipes: These are made of pure Straits tin, specially treated, and are safer and more sanitary than those made of other material. They can be supplied straight or bent at almost any angle.



Self-contained applicator tube, which combines tube and pipe, with long slip cover. Illustrations by courtesy of Standard Specialty and Tube Company



Perfection in Anything Is the Highest Point of Achievement

In business the degree of success in this direction can only be gaged by the judgment of customers served.
The above represents various sizes and styles of irregular shaped containers used by some of the leading packers in America continually for many years with great success. It will be interesting for spice packers to know that cloves, mustard, and other oily spices usually hard to hold in fibre cans have been packed in high grade R. C. cans for years without complaint.

A challenge—Beat R. C. cans if you can R C that you use R. C. cans.

Home Office and Factory:

St. Louis, Mo.
103 Chambers St.

Branch Factories:

Rittman, Ohio
Kansas City, Mo.

Sales Offices:

L. C. Morris,
288 Marietta St.,
Atlanta, Ga.

W. C. Bailey,
507 Burk Burnett Bldg.,
Ft. Worth, Texas.

Myers Paper Co.,
Memphis, Tenn.

A. G. Fox Sales Co.
1727 West 69th St.,
Los Angeles, Calif.

C. J. Taugher,
1022 N. 15th St.,
Milwaukee, Wis.

J. Thompson,
909 Keystone Bldg.,
Pittsburgh, Pa.

W. L. Bennett,
126 S. 3rd St.,
Minneapolis, Minn.

C. E. Dobson,
813 Carondelet Bldg.,
New Orleans, La.

Wayne Rhodes,
Box 175,
High Point, N. Car.

John A. Warren,
213 Centre St.,
New York City, N. Y.

TUBE SPECIALTIES

RECENTLY INTRODUCED are tin shells, made in various sizes, which are used mainly as containers for suppositories but are equally applicable to other products. Made of tin, similar shells have been successfully used, also tin tubes which, sealed at either end, have been successfully used for drink powders. The development, offers considerable promise for use with certain powders for which convenience in use is desirable.

Likewise, other food products, pharmaceuticals and hair tonics are offered for sale in attractive, single dose containers, known as "Unitainers."

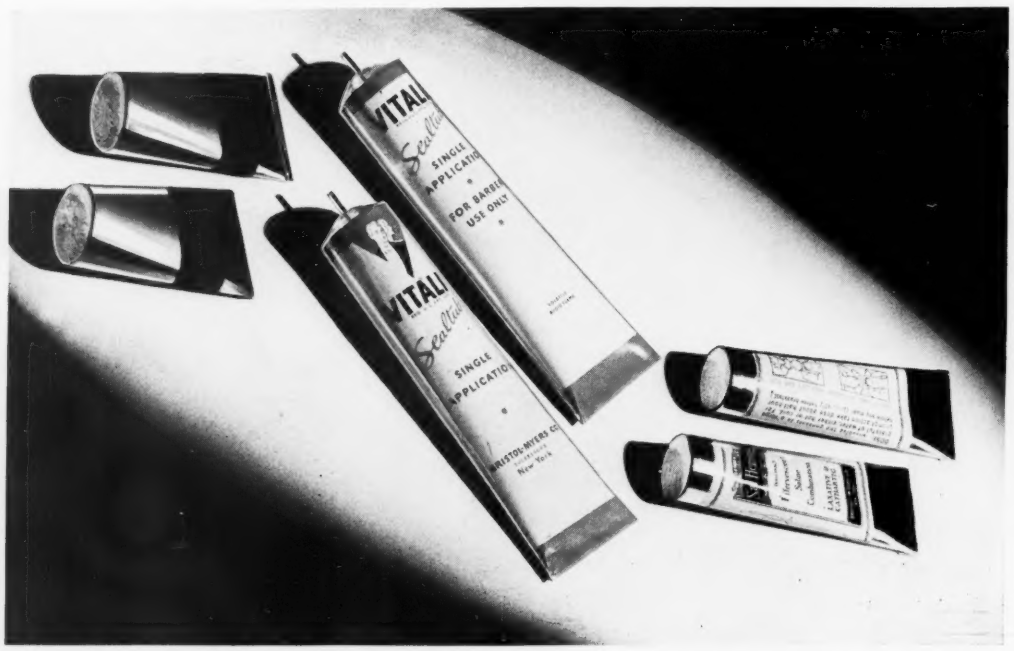
While the widespread use of this type of container is new—the idea of the container itself is nearly one hundred years old, having been patented in 1842. The Unitainer is probably best defined as being a compact, convenient tube holding one dose or application of a product. It offers many advantages for manufacturer and consumer. It eliminates substitution for, once opened, it is destroyed and cannot be refilled. It provides a full, measured quantity of a product whether it be paste, liquid or powder. It does away with the danger and expense of breakage and, because of its lightness, reduces shipping costs.

Many products are particularly subject to moisture-absorption, light or leakage. For these products, Unitainers are ideal. The opaque nature of the container shields the product from the light, while its seamless construction and hermetic top guard against both moisture-absorption and leakage. Tests made over a 9-months period with a well-known effervescent salt at 50, 75 and 90 per cent relative humidity, at 100 deg F. showed moisture pickup and CO_2 loss were negligible.

To the consumer, the Unitainer represents a smart, personalized "service." Its sealed protection has a definite appeal. And, of course, it has a matchless convenience. It can be opened, quickly and easily, with the fingers. Even those designed for liquid products and which come with a (patented) opening device boast this amazing convenience.

From the manufacturer's standpoint, one of the outstanding merits of this novel package is that it requires no labeling to be done by him. They are supplied labeled, embossed—or, if desired, plain. They need no separate closure as the seal is made from the body of the container. For filling there are standard, fully developed machines which are high-speed and automatic.

Although this new single dose package possesses unique advantages from every angle, from manufacturing to sales promotion—it competes in cost fully with any container possessing the same qualities and meeting the same requirements. Where Unitainer use is concentrated—soda fountains, barber shops, beauty parlors—the collection of "empties" is easy—and these have a redemption value corresponding to the value of the tin.



Compact metal tubes such as these are capable of holding one dose or application of certain products

SECTION 6

GLASS CONTAINERS—CLOSURES pages 222–256

GLASS CONTAINERS
GLASS VIALS
SEALING COMPOUNDS
VAPOR-VACUUM SEALING
CLOSURES
GLASS FINISHES
LINERS FOR CAPS

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XUM



From left to right: Mayonnaise, Cream, Medicine, Prescription, Polish, Atomizer, Perfume

GLASS CONTAINERS

by T. K. ALMROTH

GLASS has again moved forward on many fronts. The past year has, in fact, been one of the most important in glass history. While new developments and applications of glass in the packaging field during the past year have been unusual, the rapid growth in recognition of glass as a sales factor is perhaps of even greater significance. Simultaneously, all over the country new thousands of manufacturers and packers have apparently for the first time become fully aware of the immense sales power of the glass package. In the face of incontrovertible sales figures, they no longer ask "Does glass sell?"—they ask only "How does glass move the consumer to buy, and how can these principles best be applied to our own products?"

Any of the leading manufacturers of glass containers can readily answer the first part of that question. Certainly *visibility* of the product is one of the first great advantages offered by glass. The days of scarcity are not yet so far behind us that our pioneer instincts for trading are lost. As a nation we still like to "see what we buy" and get the best value for our money. The years of depression have even re-sharpened this instinct in quarters where it was growing dull.

With returning prosperity, we have also a new impetus to enterprise and invention. New equipment for comfortable and convenient living is constantly being created. New models of old equipment entice millions to purchase. Where needs are greater there is a constant sharpening of the trading instinct so that available money may be made to go as far as possible in purchasing the ever growing list of things we wish to own. We want full value for our money. So, more than ever, we like to "see what we buy," and we consequently "buy it in glass"—the one rigid material that displays the product while giving it protection against crushing, spoilage and contamination

Not only does glass display the contents, but by its clearness and brilliance it, in many cases, actually enhances the appearance of the product; displays it to best advantage; gives it "class," and suggests not only quality, but cleanliness. Any customer is bound to feel that a packer who puts his product out in the open—in glass—has nothing to hide.

In many cases transparent glass offers a further advantage of convenience. The user can see at a glance how large a quantity of any material is still on hand. The reminder to re-order in time is appreciated by consumers, and may add thousands of units to the packer's sales in a year's time.

Where visibility of the product is not an important sales factor, the attractiveness and individually of the container becomes a matter for most careful consideration. Here glass scores enormously because it lends itself to an almost unlimited variety of treatments. Especially when the entire packaging problem is placed in the hands of a single supplier capable of unifying all the elements—container, closure, label, carton and shipping case. Proper experience and equipment will then produce packaging that conforms to the product in design and color combination, that has eye-appeal and the suggestion of cleanliness and convenience. Closures are more certain to fit. Lables are modernized and suited to proper display. The designer of a glass package today has at his command an almost unlimited range of shapes and colors. He can create the entirely new and modern. He can modernize those package elements which are worth retaining because of traditional associations.

The glass manufacturer who has kept pace with the trend of packaging requirements goes even further than to offer this service in complete designing of the package. He maintains research and consultation facilities that extend right through his customer's factory to the retail sales counter. He makes it a part of his service to assist the packer in making correct use of the glass containers.

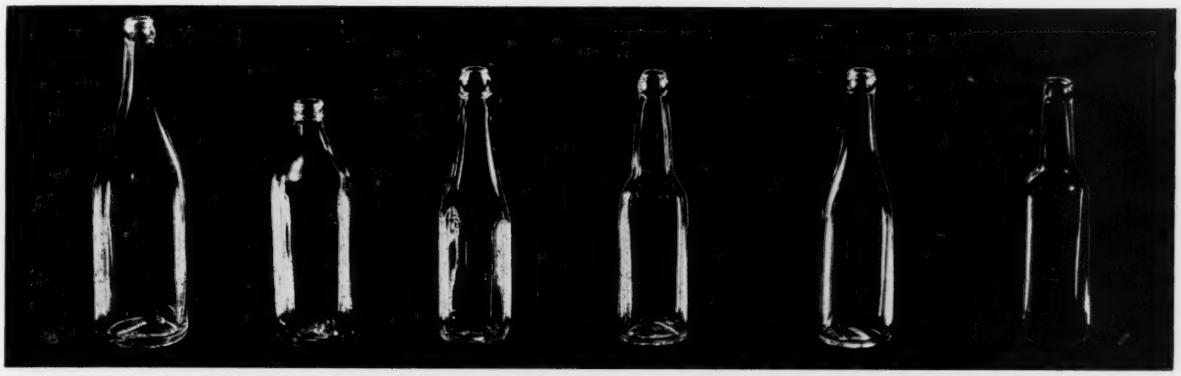
The packer who chooses glass as his sales ally is no longer left to wrestle alone with all the problems of processing and filling created by the adoption of higher speed automatic equipment. The modern glass container



From left to right: Soda, Sauce, Cherry, Extract, Miscellaneous Proprietary, Horseradish, Toilet



From left to right: Coffee, Chili Sauce, Mason, Honey, Miscellaneous Food



From left to right: Grape Juice, Vinegar, Catsup, Beer, Porter, Ale



From left to right: Gallon Packer, Water, Miscellaneous Food, Preserve, Milk



The "Stubby" (left) and "Steinie" (right) bottles are innovations in the glass container field. Both are compact, of lighter weight but have the same capacity as the standard beer bottle, and have won ready acceptance as nonreturnable containers

manufacturer shares these problems and helps to solve them, along with problems of freight cost, display, merchandising and advertising. All this is a natural outgrowth of modern sales needs and the enormous increase in importance of the modern glass package.

The entrance of automatic machinery into the glass industry so reduced the cost of glass containers that almost any type of glass package has come within easy reach of the average manufacturer. This factor alone has materially increased the use of glass containers in the past three decades for such products as drugs, pharmaceuticals, cosmetics, beverages, household necessities, milk and such other foods as catsup, vinegar, sauces, salad dressings, pickles, peanut butter, honey, etc.

Consumers everywhere have long had perfect confidence that glass can have no ill effects upon the contents of a package. This also has contributed to the popularity of the glass container. Consumers feel that foods in glass need never be transferred to other receptacles after being opened. Glass containers for foods, in many instances, offer an additional sales inducement in that they can be placed directly on the table. In the case of beverages the original glass bottle is everywhere "accepted socially" for direct individual service in dining room or living room. Many glass containers also have an obvious re-use value—may be used for storage of supplies, for home preserving, as decanters or water containers. The glass tumbler has become well established as a popular container for foods, the package in this case becoming practically a merchandising premium because of its universal re-use value.

The success of glass has now reached a point where it is in demand for additional types of products requiring its adaptation to automatic handling under circumstances that require solution of intricate technical problems. Years of experience in glass manufacture and in solving the problems of processing are required to find the correct answer to some of these problems. But they are being found, and glass is advancing steadily to greater usefulness and more perfect performance of the packaging function in the selling of goods.

An example of modern glass technique is found in the research now being conducted in glass contours whereby minute variations in the design of liquor bottles are expected to give increased strength for meeting mechanical and impact shock without requiring additional weight. Likewise in the packaging of carbonated beverages, beer and coffee vacuum packed in glass, the problem of securing glass containers of lighter shipping weight without sacrifice of strength has been successfully attacked and solved. New types of beer bottles developed in this process have brought with them many secondary advantages in merchandising.

The development of machinery and processes for the vacuum packing of coffee, tea, spices and numerous other foods in which the preservation of strength, aroma and freshness is important, has led in the past three years to revolutionary changes in public buying habits as they pertain to these fields.

Next came the rise of applied color as the greatest new development in glass packaging. In 1936 this application of color to glass ceased to be rated as an innovation. The use of applied color lettering and design on milk bottles suddenly spread to other fields. Factories where these processes are available have had to expand their facilities rapidly to keep pace with demand.

Numerous beverages are now packaged in bottles labeled and decorated with colored designs and lettering fused directly into the surface of the glass. In the same manner advertisements of companion products are being placed in attractive color on the reverse side of certain containers. Carbonated beverages and beer and all such products that are commonly retailed under conditions that cause them to lose paper labels, are turning to applied color lettering as a solution of the difficulty. Likewise many products of household and toilet use that are likely to be handled with wet hands are turning to applied color lettering to escape label difficulties. The new moderate-cost processes for the application of color to glass have, almost in a single year, created this revolutionary packaging trend. Not only for lettering and the application of decorations, trade marks, etc., is the process used, but also to extend the range of colors obtainable in glass packaging. With this process an almost unlimited range of colors and shades thereof can now be applied over the entire surface of the container to secure the exact color effect desired.

To the packer who asks, "How does glass move the consumer to buy?" any glass manufacturer has a most convincing answer. To the question, "How can all this best be applied to my own products?" the most satisfactory answer is obtainable in quarters where the service of the glass container manufacturer extends clear through to the retail shelf. Such service includes authoritative information on package design, production and merchandising display.

While the use of glass containers is rapidly expanding into new fields, there are still four main classifications into which the principal types may be grouped—food containers, beverage containers, medicinal and toilet preparation containers and general purpose containers. In these groups there are, in turn, numerous sub-classifications a brief summary of which follows:

Beauty Always Attracts



THE BEAUTY OF BLUE
CAN WIN PROFITS FOR YOU

MARYLAND BLUE gives your product the winning appeal of color—the positive suggestion of quality—with retailers and their customers alike. Ask us to tell you about the very definite sales advantages of Blue . . . to explain why products packed in rich, colorful Maryland Blue get the call.

WRITE FOR SAMPLES. Please tell us the nature of your product and the sizes in which it is packed. Maryland Glass Corporation, Baltimore, Maryland. New York Representative: 270 Broadway, New York City. Pacific Coast Representative: Owens-Illinois Pacific Coast Company, San Francisco, Cal.

MARYLAND GREEN TINT AND FLINT BOTTLES ARE OF THE SAME HIGH QUALITY AS MARYLAND BLUE

MARYLAND *Blue* BOTTLES



Types and Purpose

1. *Food containers*

   (a) Milk bottles: For milk and cream. (Blown lettering or applied color lettering.)

   (b) Narrow-neck blown bottles: For catsups, chili sauces, table sauces, vinegars, salad dressings, syrups, condiments, spices, salad oils, oyster cocktails, etc. (Applied color available for these).

   (c) Wide-mouth blown bottles: For jams, preserves, mustards, candy jars, cherry bottles, olive bottles (wide or narrow mouth), pickle bottles, crushed fruit jars, horseradish bottles, mayonnaise jars, vegetable jars, meat jars, salt and pepper shakers (when sold to packers), etc. (Applied color available for these.)

   (d) Pressed ware, tumblers: Used largely for jelly, peanut butter, marmalade, cottage cheese, grape fruit juice and some meat products. (Applied color available).

2. *Beverage containers*

   (a) For carbonated beverages such as sodas, ginger ales, malt extracts. (Applied color coming into wide use).

   (b) For cereal and malt beverages. (Standard beer bottles and new type "non returnable" beer bottles). (Applied color being adopted).

   (c) For non-carbonated beverages, such as fruit juices and still water. (Applied color available for these).

   (d) Liquor ware. Wine bottles. (Applied color coming into use).

3. *Bottles and jars for medicinal and toilet preparations (both pressed and blown)*

   Medicine bottles, druggists prescription ware, bottles for pharmaceutical preparations and use of manufacturing chemists, containers for toilet preparations, cosmetics, peroxides, citrates, hair tonics, pomades, liniments, cold creams, vaseline, face creams, perfume, toilet water, lotions, talcum powders, castor oil, flavoring extracts, sterilizers, nursing bottles. (Applied color increasingly popular.)

4. *General purpose containers*

   For acids, cleaning fluids, polishes, paints, shellacs, varnishes, stains, ammonias, inks, mucilages, battery jars, soap globes, tamper-proof oil-dispensing bottles, reservoirs for oil stoves, fire-extinguishers and other special items. (Applied color particularly adapted to many of these items.)

Advantages of Glass

The glass container possesses many marketing advantages from the standpoint of the packer and bottler. A few of these advantages are listed below. Their sequence of importance depends upon the product.

1. The glass container is the most sanitary container. Foreign substance of any kind can be readily detected through such container.

2. The glass container places delicate foods and drinks in the consumer's hands free from all foreign tastes and flavors.

3. The development of automatic machinery makes it easy to pack a product in glass.

4. Transparent containers guarantee 100 per cent inspection, thus establishing public confidence.

5. In revealing everything as it is, the glass container gives the packer full credit for his use of high-class raw materials and superior packing methods.

6. The glass container helps sell its contents; it is the "silent salesman."

7. The packer is protected in that if there are any imperfections in the product or mistakes in labeling, they can be detected while in his hands.

8. Since color is a potent factor; the transparent glass container packed with a colorful product offers unusual opportunities for the use of attractive labels.

9. The glass container has the best psychological background. From the nursing bottle through childhood to old age, glass stands for purity and sanitation in everybody's mind.

10. The housewife is already sold to the idea of glass for home preserving. Thus, she is a ready prospect for goods marketed in glass.

11. The demand for greater variety of products in glass is rapidly increasing.

12. The glass container lends itself to individuality in size and shape; hence, it is adaptable to many products.

13. Modern glass containers possess great tensile strength, withstand the heavy shocks incident to shipping and handling, and can be subjected to very high temperatures in processing (cooking).

14. Various products can now be vacuum packed in glass to definite advantage.

15. Many glass containers are valued in the home for re-use as pantry jars and for home preserving.

16. The applied color process can be used to fuse the name of the product, the trade mark and other designs into the glass, eliminating labeling if desired.

17. The manufacturers of glass containers and closures are glad to cooperate with the packer. They are squarely behind their product and their customers.

The Glass Container Association of America, 19 West 44th St., New York, is at the service of packers and bottlers requesting information upon glass containers, closures, machinery and equipment and special bottling problems.

VARIETY!

The Dodge Line is deliberately kept so varied that Dodge can provide anything from "just a fine cork" to closures tailored for one specific job. Make us prove this statement next time you need closures. **DODGE CORK COMPANY, INC. LANCASTER, PA.**

CORKS

for Wines and Liquors



You can get just the cork you want because we have so many varieties from which to choose. All-cork flanges, straight corks, and champagne corks. Quality true to grade, dimensions are fractionally accurate—and they come fast when you order.

for Foodstuffs, Drugs, etc.



A complete line—shell corks, tapered corks, wedge top and round top corks. Flange corks cut by exclusive Dodge machinery that gives unequalled smoothness to the under rim of the flange. This means that they won't "rise" from the container.

WOOD TOP CORKS

Milled Edge . Vial Top . Fluted Edge







Close sealing for close budgets. They can be finished in color and handsomely designed. Hard wood flange with cork shank. Exceptionally smooth finish.

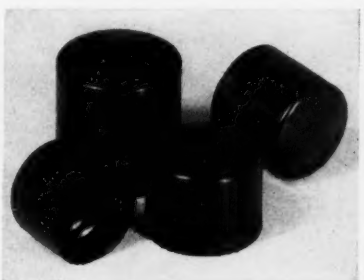


SPRINKLER CAPS

Unscrew the cap and—presto!—your bottle's a sprinkler—without need of special equipment. Top cap in colors.

MOLDED CAPS

Some are tall, some are short, some are in between—but all are bearcats for strength. They'll top off any container in style. They are easy to put on or take off and they won't rust. All desired sizes, black or any color. Well, pin, and dropper types.



MOLDED FLANGE CORKS

with Exclusive Fin Construction



The virtues of cap and cork are wedded in the Dodge Molded Flange Cork. It's a mating happy for its combination of natural cork's sealing power with a molded cap's smart appearance and convenience. Fast! A twist and the bottle's open—another and it's sealed. No annoying fumbling. Positive! Nothing reseals so surely as natural cork. The plastic material used permits deep, beautiful designs. These are the ideal closures for distillers, food, drug and cosmetic manufacturers.



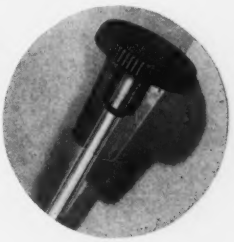
The exclusive fin construction of Dodge Molded Flange Corks and a special moisture proof adhesive grips cork to top with the tenacity of welding.

MOLDED FLANGE CORKS

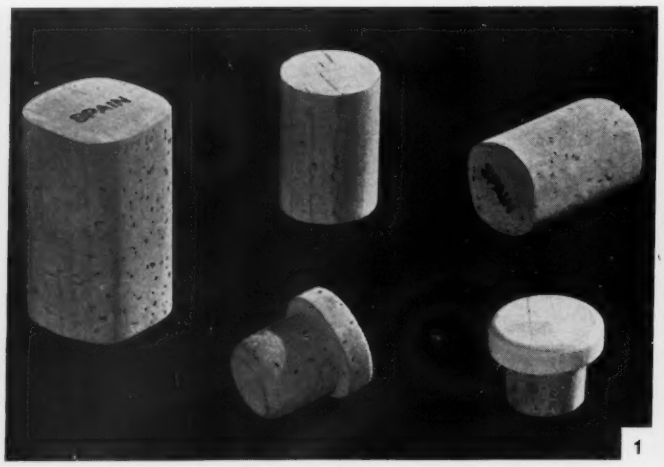
for Small Bottles The smaller the bottle, the bigger the part the closure plays in its appearance. Dodge Molded Flange Corks are handsome enough to be in key with the finest styled bottles—yet they provide the tight seal of natural cork. *We design special closures of this type for special needs.*



New Dodge Applicator Closure combines the advantages of all other type applicators. The glass rod is anchored in the well of the molded plastic top. The cork base fits snugly around the well.

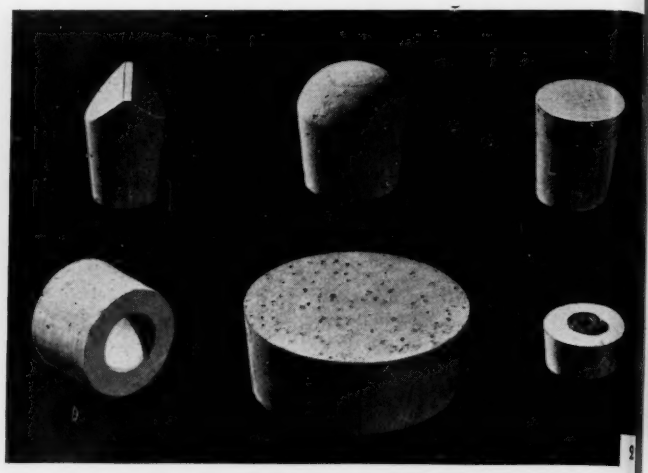


There's an ARMSTRONG CLOSURE



1

1. Corks for Wines and Liquors. (Refer also to Embossed-Top Corks.) Choose from the large Armstrong Line of Spanish and domestic corks: straight corks, flange corks, hand-cut corks, wood-top corks, and champagne corks (tirage and expedicion). All standard diameters and lengths available.

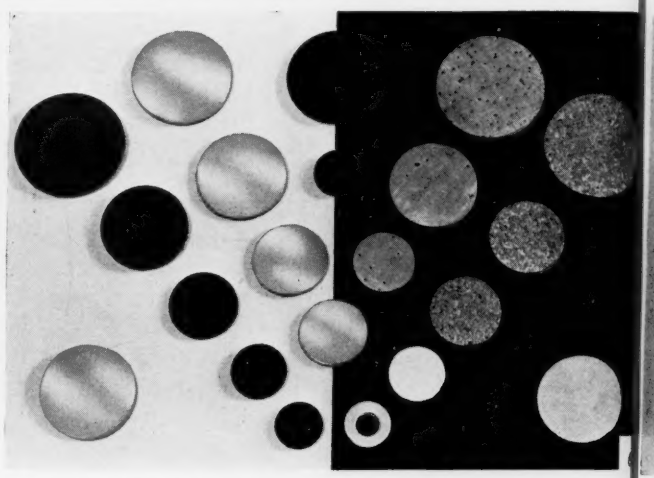


2. Corks for Drugs, Cosmetics, Foodstuffs, and Miscellaneous Products. Armstrong offers all types of corks—tapered corks, shell corks, round-top corks, wedge-top corks, cemented corks, and specie or jar corks. Made from fresh, lively corkwood in a complete range of grades and sizes.



5

5. Embossed-Top Corks. All the advantages of a good cork plus the beauty and practical merits of a handsomely embossed hardwood top. Armstrong's Embossed-Top Corks are the most popular and convenient closures in the liquor industry. Bartenders and consumers alike find them easy to use.



6. Liners for Caps. All types, sizes, and thicknesses, including cork, felt, pulpboard, rubber, and special compositions. When necessary, they are faced with various types of paper or foil to resist chemical action. Armstrong Laboratories will test your product to determine the most suitable liner.

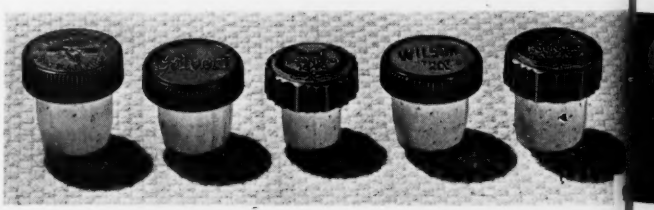


WRITE FOR YOUR COPY OF THE NEW ARMSTRONG CLOSURE CATALOG!

This *new* catalog gives complete information and illustrations of the entire Armstrong Line of Molded Caps, Metal Caps, Corks, Embossed-Top Corks, Applicator Caps, CEL-O-SEAL caps and bands, and liners of all types. Also many pages of information useful to manufacturers of glass packaged merchandise.

A copy of this new catalog "Better Seals for Better Sales" will be mailed free of charge to manufacturing organizations, package designers, and advertising agencies handling packaging problems for their clients.

WRITE FOR YOUR COPY TODAY!–ADDRESS ARMSTRONG CORK PRODUCTS COMPANY, CLOSURE DIVISION, 910 ARCH STREET, LANCASTER, PA.



9. Molded-Top Corks. Armstrong's Molded-Top Corks combine the lustre and smooth texture of a molded plastic top with the sure-sealing quality of a lively, resilient cork. When molded with your private design or trade mark, they add a distinctive touch of closure decoration to your bottle.

BRANCH OFFICES Armstrong's branch offices are located in principal cities to assure manufacturers quick, efficient service for their closure requirements. Whenever you need closures, call or write the Armstrong office nearest you.

ARMSTRONG IS CLOSURE HE

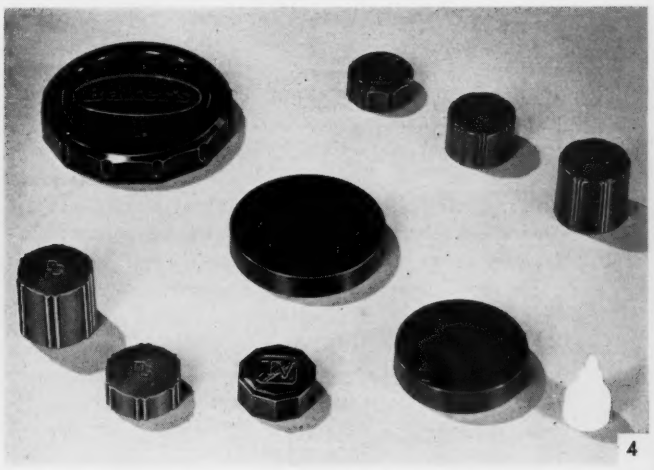
XUM

FOR EVERY SEALING NEED . . . .



3

3. Metal Caps and Jar Covers. Made in single-shell and double-shell types for both narrow-mouth and wide-mouth glass containers. Supplied in a wide range of attractive colors or lithographed with private decorations to harmonize with label colors and designs. Made of aluminum or tin plate.



4

4. Molded Plastic Caps and Jar Covers. Armstrong's Artmold Caps give packages a "finishing touch" of beauty and refinement. Furthermore, they are sturdy, readily applied by machine or by hand, cannot rust or corrode, are easy to remove and replace. Available in stock designs or custom molded.



7

7. Crown Caps. Used for sealing beer, carbonated beverages, fruit juices, a variety of food products. Discs or liners are made of resilient, high quality cork—either plain or faced with tin foil, aluminum foil, or varnished paper. Made in stock, proprietary, and specially lithographed private decorations.



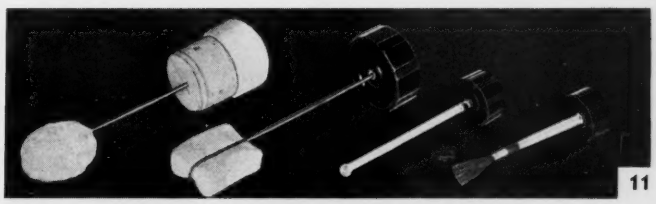
8

8. "Cel-O-Seal" Caps and Bands. A cellulose cap or band, made by DuPont and sold by Armstrong for use on liquors, drugs, foods, etc. Fit over any type of closure and shrink tightly to the bottle neck. When impregnated with your trade-mark, they prevent illegal package duplication.



10

10. Metal-Top Corks. This type of closure is widely used in Europe for sealing liquor. Available in a wide range of plain colors. Or the metal top may be lithographed in bright colors or embossed with your name or trade-mark to add a final note of attractive decoration to your package.



11

11. Applicator Caps. Supplied with glass rods; quill brushes; twisted-wire brushes; metal handle brushes; cotton, felt, and wool applicators on wire; and sponge rubber applicators on glass rods. They are available in combination with molded caps and, in some cases, with corks and rubber stoppers.

ATLANTA ~ BOSTON ~ CHICAGO ~ CINCINNATI ~ DETROIT ~ LOS ANGELES
NEW YORK ~ PHILADELPHIA ~ PITTSBURGH ~ ST. LOUIS ~ SAN FRANCISCO ~ SEATTLE

ARMSTRONG A CORK

HEADQUARTERS

GLASS VIALS

by WARREN S. HOOD

IN the front ranks of successful carriers of today's sampled and packaged products is the glass vial. Small, feather-weight glass vials have, by their very nature, become the choice of many leading manufacturers of drugs, perfumes, proprietaries, pharmaceuticals, toiletries and other products which lend themselves to being sampled or packaged in small containers.

For products of this type, ranging from headache pills, laxatives and candy, to perfumes, cleaning compounds, chemicals, extracts, oils, cereals, grain and food products, a small glass container such as a screw cap, cork-closured, or patent-seal vial is ideally suited to the purpose, especialiy so because of their availability for numerous types of "tailor-made" closures—dropper tops, applicators, shaker tops, slip caps, screw caps, Re-Seal-It caps, Goldy seals, and special designs in cork, wood or plastic closures.

The advantages of transparency in a container for sampling or for permanent packaging are obvious. For example, glass vials serve as miniature show-windows for their contents, enabling the buyer to see what he is getting. Their brilliance and luster carry valuable eye-appeal, and they inspire confidence due to their sanitary, tamper-proof qualities. The small glass container of today is strong, durable and leak-proof. Retempering or annealing has given them unusual resistance to shock and breakage. Fabricated from machine-made glass tubing automatically drawn, they possess sturdy walls of uniform thickness and diameter. Their trim, cylindrical shape permits unlimited treatment in colorful labeling—and the assembly becomes an article easily transported in vest-pocket or handbag, and instantly available and usable.

Sample sizes of many products are now being packaged in vials and sold for 10 cents a package in thousands of chain stores throughout the country. In this way the sampling campaign more than pays for itself, and hundreds of new products are introduced to the public, helping the sale of the regular size package. "Custom-made" vials and closures of unusual and special design are constantly being created for sampling purposes, and for the packaging and bottling industries.



Types and comparative sizes of glass vials. Illustration, courtesy of Kimble Glass Company

For the Best Effect Pack Your Products in Federal Glassware

A constant reminder of YOUR products—A container that creates the urge to buy again—that is the story of Federal glassware for packaging.

Tumblers in new and modern styles—large roomy cookie or candy jars—jugs—cocktail shakers—and scores of other outstanding containers which give added appeal to your products. The appeal to the consumer who gets a container to keep and use —and add to.

Let Federal Glass containers help you sell more of your products to your regular customers and open new avenues of distribution.

Write, wire or phone for catalog and details.

The Federal Glass Company

Columbus, Ohio

SEALING COMPOUNDS

by R. J. GRAY

CONTAINER EFFECTIVENESS is largely dependent upon the sealing medium employed. And the word "effectiveness" is used advisedly, because upon the proper functioning of the seal hinge four of the most important requisites of package salability:

First: That the contents be sealed securely against leakage from within or infiltration of air or foreign materials.

Second: That the contents be protected from contamination by the sealing material itself.

Third: That the package be kept fresh, tidy and appealing during its journey from the manufacturer to the ultimate consumer.

Fourth: That the package is opened quickly, easily by the customer, to encourage repeat sales and build consumer goodwill.

These factors apply from the lowliest paper container to the most expensive vacuum packed coffee or to the vacuum packing of mayonnaise in thin tumblers.

The sealing media employed for most of the simpler packages are of such long standing as to be quite generally understood but there is a rather widespread lack of knowledge on the newer types of closures probably because of the fact that the beauty of the package itself dominates the attention to the exclusion of any thought as to the nature of the sealing media employed.

Originally the seal used for tin containers was made hermetically tight by soldering, but this method is cumbersome, does not lend itself to high speed packing and, in some industries, tends to contaminate the contents because of the soldering flux residues that may be present. Although there is still a large field for an all soldered tin can in certain limited fields, today the bulk of the packaging in tin is done in cans which are sealed by double seaming the ends.

In speaking of double seaming, it is meant that the cans are supplied to the packer with open tops and that, after filling, the covers are attached to the bodies of the cans by a tight interlocking junction that is rolled by machine. It is obvious that any such mechanical folding of metal requires some sort of gasket to take care of the many little inequalities in the thickness of the metal as well as the variations in the machine action. In addition, the gasket material must have the necessary chemical and physical properties to prevent contamination of products packed in the tins. As the great bulk of tin containers is used primarily for food products, the seals must be able to withstand pressure as well as high vacuums. The material best adapted to these needs is rubber in some of its forms.

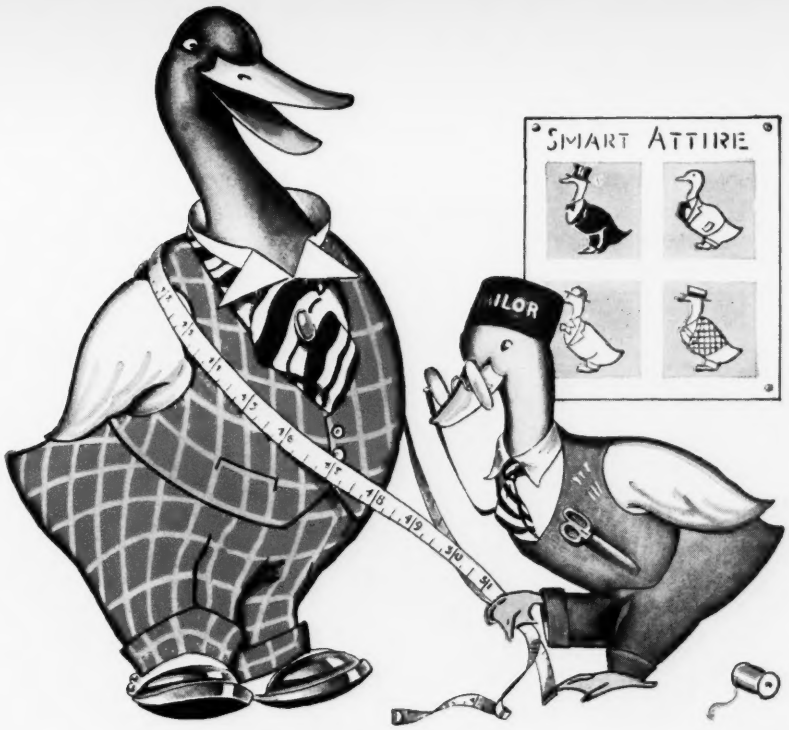
Today practically all sealing compounds are made from rubber latex. In this form there is a water emulsion which is non-inflammable and non-toxic, eliminating the fire, explosion and poison hazard of the former compounds. In addition, they contain high rubber solids which provide thicker gaskets of resilient rubber plus inherent favorable aging characteristics that are desirable in this type of work.

With the development in the art of manufacturing tin containers, necessary changes in the sealing compounds had to be made in order that they might be placed into the covers at a high speed. When one considers that can ends are lined at the rate of 350 to 500 per minute on a rapidly revolving turret, it is easy to appreciate the control that must be exercised with fluidity, plasticity, viscosity, etc., of the sealing compound to offset the high centrifugal speeds encountered. In this lining operation, the can ends automatically feed to a chuck which revolves underneath the nozzle. After a predetermined amount of liquid rubber has been placed in the end, the covers are piled in stacks and placed in driers to remove the moisture. The lined ends are then ready for their useful work.

Reference has been made to the fact that the nature of the product to be packed had a definite bearing on the sealing medium used. Food products quite generally take one general type of compound; oil and oil base products require an entirely different type; and the successful dry-vacuum packs, such as coffee, etc., require still another type of compound. However, because of the vast amount of research expended on these seemingly insignificant films, the art has been so well studied that today it is actually possible to seal under pressure highly poisonous gases, such as hydrocyanic gas, without danger of their leaking in transit or storage. This is indeed a high tribute to both the can-making art and the sealing media used.

It is interesting to note that even with double seamed tin cans easy opening is again playing an important role in the expansion of the market for packaged goods. For example, it required the development of a key opening vacuum can to permit the wide expansion of the ground coffee market. Even in the case of beer, it has been necessary to develop a quick opening can opener to permit the ready opening of the package to insure its consumer acceptance.

In packing in glass, however, the sealing media plays an even more important role than it does in the case of the tin can. It is not practical to close a glass jar by fusing on a glass top for many obvious reasons. Therefore, its real expansion and development waited for the development of suitable resilient liners that would permit the packaging of material in glass under vacuum, pressure and processing. It was natural, of course, that the first step should be to adopt the common rubber ring that had been used for years in home canning as a seal-



If you have an UGLY DUCKLING

. . . try the "beau brummel" route to popularity and appeal! *Appearance* is half the battle in capturing sales—and many an "ugly duckling," garbed in a new attire, has become an overnight sensation.

And so it is with packaged articles. Even the most commonplace product — primed for sales action in a sparkling Kimble Glass Vial — blazes new and profitable trails through crowded markets and competitive fields. Pills, powders, capsules and tablets—oils, perfumes, chemicals and extracts — compel buying attention and demand "front row" display when sampled and packaged in these colorfully closured and labelled Kimble Vials. They become smart, alluring products. They capture new sales and new friends through the beauty, daintiness and convenience of their crystal Kimble containers.



Kimble Vials — annealed — air-tight and leak-proof — are available for cork closures, droppers, applicators, Goldy Seals, Re-Seal-It Caps, screw caps, shaker tops, and many special tailor-made closures adaptable to your sampling or packaging requirements.

Consult Kimble first — for the last word in modern packaging!

KIMBLE GLASS COMPANY . . . VINELAND, N. J.

NEW YORK • CHICAGO • PHILADELPHIA • DETROIT • BOSTON

ing medium. This, however, brought problems of its own, such as hardening and aging of the rubber, a large inventory of different sizes, sticking the ring in place in the caps, having the proper springiness to meet the uneven edges of the glass. Further trouble was also encountered with the rubber rings sticking to the glass jar upon opening and, far more, difficulty in opening it at all. Both of these were highly objectionable to the ultimate consumer. For these reasons, the rubber ring to a large extent has been supplanted by a flowed-in film of carefully compounded rubber. This film is uniform and plastic enough to deform and take care of the inequalities of the glass surface (yet with an ultimate resiliency which prevents cutting through of the film) and to give a seal which meets the demands of safe, sure, dependable seals that permit easy opening by the user.

Again with these seals, the nature of the compound must be varied to the needs of the material packed. Packs requiring heating in excess of 212 deg. for sterilization demand a different type of seal than those of a cold pack. Where an oily product is to be held, a compound that will resist solvent action is required.

For the successful development of the one piece screw cap, it was necessary to make the film self-lubricating so that a vacuum pack could be used yet still permit easy opening because of the nature of the sealing film.

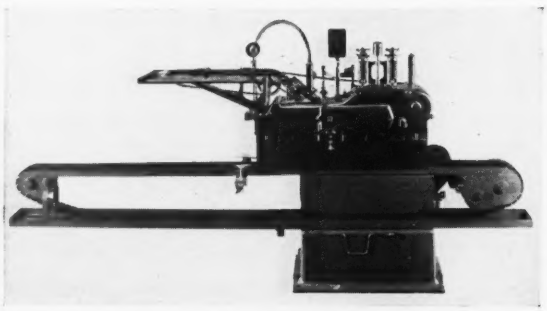
With the development of these new flowed-in gaskets, a wide field of application of varying types of closures and styles of containers was opened up to the glass industry. For example, these soft plastic films allowed the introduction of thin blown glass tumblers for packing. Here utility, as well as eye-appeal, was employed to further the expansion of the glass pack market. Seals that were formerly hard to open and created a definite consumer antagonism to glass packing have been redesigned to take the newer flowed-in gaskets which permit easy opening.

In all this expansion of the use of glass containers, the flowed-in sealing film has played an important role because it follows the four requisites mentioned, to wit: To seal the package safely to prevent leakage either outward or inward, to avoid contamination from the sealing medium itself and by easy opening, to create consumer interest, resulting in repeat business.

VAPOR-VACUUM SEALING

by L. E. DAVIES

VAPOR SEALING is the most modern method developed as a means of capping glass or metal containers for food or other products. The system is, unquestionably, the most unique method of producing a high vacuum in the sealed package that has ever been used. The merits of vapor vacuum sealing have come to be well recognized in the food industry within recent years. The vapor system retains all of the advantages of the mechanical vacuum while, in addition, it possesses certain other features of great importance.

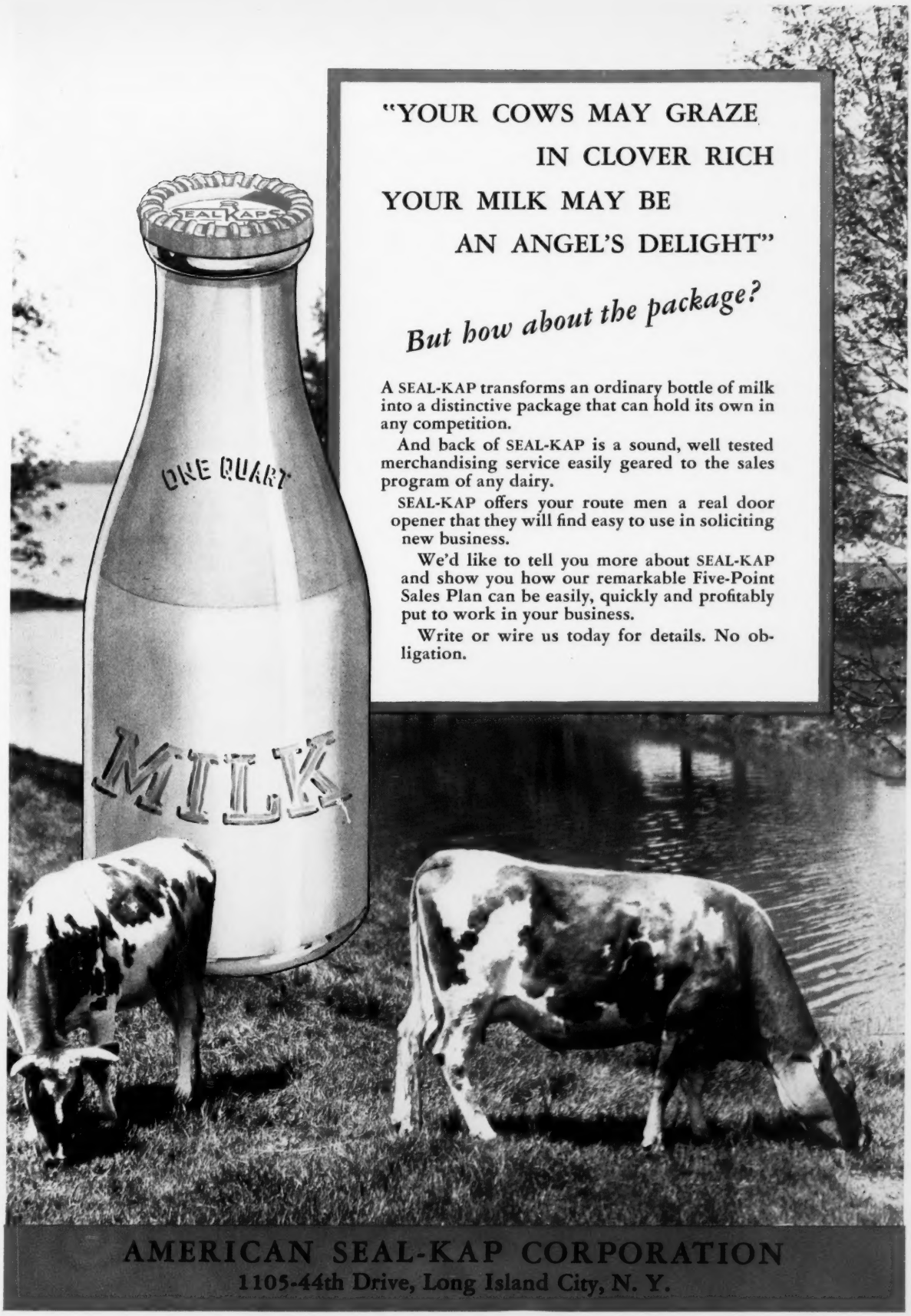


Full automatic vapor-vacuum capping machine

Describing the system briefly; the bottle, tumbler or can to be capped is carried on a conventional straight-line conveyor belt, at a steady rate of speed through a short tunnel within which the upper part of the container is swept by a gentle flow of slightly superheated steam which serves to effectively sterilize the surface of the product and the upper part of the container while, at the same time, the air in the head-space is displaced by vapor. While still surrounded by the vapor, the cap, which has been sterilized, also by the hot steam, is picked up and quickly pressed onto the container after which the cooling of the vapor in the head-space of the package sealed causes the vacuum to form.

The fact that the vacuum is never formed until after the seal is effected is of great importance, as it prevents any disturbance of the product. Thus, very hot products or products containing substantial amounts of entrained air or gas such as salad dressings, may be vacuum sealed without having any of the product "sucked out" as is usually the case when drawing a vacuum on this class of product.

The efficiency of this modern revolutionary principle of vapor vacuum-sealing is so refined that there is no trace of moisture trapped in the package or on the cap and an efficiency of vacuum up to 28 in. can be obtained. The amount of vacuum to be applied is under perfect control. In other words, by the adjustment of the vapor flow, a vacuum conditioning ranging from 2 in. to 28 in. can be applied without variations.



"YOUR COWS MAY GRAZE
IN CLOVER RICH
YOUR MILK MAY BE
AN ANGEL'S DELIGHT"

But how about the package?

A SEAL-KAP transforms an ordinary bottle of milk into a distinctive package that can hold its own in any competition.

And back of SEAL-KAP is a sound, well tested merchandising service easily geared to the sales program of any dairy.

SEAL-KAP offers your route men a real door opener that they will find easy to use in soliciting new business.

We'd like to tell you more about SEAL-KAP and show you how our remarkable Five-Point Sales Plan can be easily, quickly and profitably put to work in your business.

Write or wire us today for details. No obligation.

AMERICAN SEAL-KAP CORPORATION
1105-44th Drive, Long Island City, N. Y.

Each to its JOB

CONSIDERABLE depends on the selection of the proper closure for your products. Primarily, of course, it must protect all of the original quality, flavor or other beneficial values in these products, deliver them in perfect condition. The right type of cap will do that adequately regardless of the time element or temperature, humidity, rough handling and other hazards packages may encounter.

Here are some factors that call for care in the selection of a closure. Some products are packed cold; others hot. Some require a vacuum seal; others an airtight, leak-proof seal. Some need only a cover cap; others sterilizing or processing. In some cases the cost factor is all important. In any case caps must be easy and economical to apply on the average run of glassware, adaptable to your production routines. Further, they must be attractive . . . help to round out an eye-appealing package, must be simple for the consumer to remove and in certain circumstances provide a convenient, efficient reseal.

The many functions required of a closure explain Anchor's different types and styles . . . by far the most extensive line of caps in the world. This complete selection assures you of the certainty of finding among them one which will perfectly and completely satisfy all your sealing requirements.

ANCHOR CAP & CLOSURE CORPORATION
LONG ISLAND CITY, N. Y. · TORONTO, CAN.
BRANCH OFFICES IN: Atlanta · Baltimore · Boston
Chicago · Cincinnati · Cleveland · Dallas · Denver
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Montreal · New York · Philadelphia
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St. Louis · Seattle · Toronto



ANCHOR

THE
INE
E WO
AKED

XUM



ANCHOR SHELLBACK CAPS, varying top designs with plain or fluted skirts



ANCHOR PARAGON CAPS, Screw and Snap • ANCHOR BAND CAP • ANCHOR CLIPPER CAPS, Styles R and A



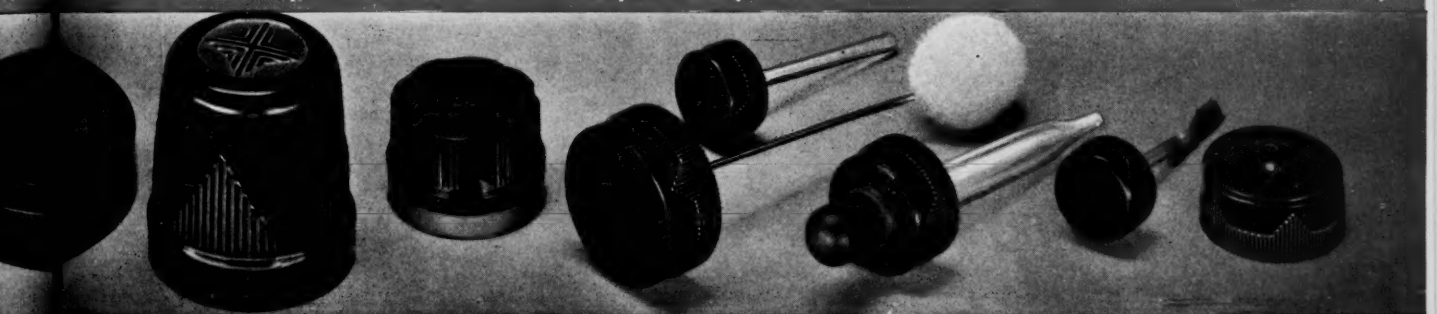
Styles D, F, K, T • ANCHOR PILOT CAP • ANCHOR HALYARD CAPS . . . for jars and bottles



Style Style . . . Gasket Lined Type . . . 2-Piece Style • ANCHOR BEACON CAP . . . Amerseal Nozzle . . . No. 67 Box



2-Pc. . . No Knurl C. T. Caps for bottles . . . For Jars . . . Deep Screw Caps; Standard, Gasket Lined and 2-Pc. . . Ash Receiver Jar Cap



Gothic Style . . . Jar Cap . . . Jigger Cap . . . Tamper-proof Cap . . . Applicator Caps, Styles A, D, N and P . . . Shaker Top, S Style

THE MOST COMPLETE
INE OF CLOSURES IN
E WORLD FOR GLASS
KED PRODUCTS

CAPS

XUM

CLOSURES

FROM earliest days the problem of sealing all types of containers has been a vexatious question. The primitive urns, crocks and other vessels were sealed with covers of pottery, wood, skin and other crude methods, often topped with waxes of various kinds.

The first great advancement came with the discovery of cork, and this rapidly became universal in use. It served its prime purpose well and kept the contents of the container from leaking. Glass became the first container with which the manufacturer had to contend and later on tin cans brought further problems.

Glass, with its sanitary qualities, transparency and pleasing effects, took its natural leadership in a great many lines, but probably even today only about 30 per cent of those products which could be glass-packed are shipped in glass. This is due to the fact that up to the present time the glass container, plus the seal, plus the label, has not been considered as integral a whole as the tin can.

An ordinary cork, when pushed all the way into the neck of a glass container, needs a corkscrew to get it out, and this often destroys its effectiveness as a re-seal. Although corks form a very tight seal, they are hardly ever absolutely airtight. Space forbids going into details about corks or all the other seals that have since been discovered, most of which are now in use. Suffice it to say that it behooves every manufacturer who is engaged in the packaging of a product that requires sealing in a bottle, jar or can to carefully study, test and compare the seals and methods before adopting any, remembering that the molding material, cork, metal, lacquer, liners, glassware and product to be sealed must be considered.

The elements included in a closure are the following: the cap itself which consists of a shape or form made of metal, plastic, wood or other substance; the liner, of various materials, which serves as an insert between the product and the liner surface of the cap, either for protective reasons or to assure tightness of fit; the finish or contour surface on the container, by means of which the cap can be securely placed thereon; the decoration, by means of which the manufacturer is enable to identify his product. In many instances, of course, the latter is not regarded as necessary because such identification is obtained by means of a label, but many manufacturers prefer this means of otherwise familiarizing consumers with the trade mark or brand name of the product. For such a purpose this identification may be lithographed, in the case of metal caps; printed or embossed on a separate paper label and applied, or in the case of a plastic closure "washed in" over the surface of the cap which has been scored or debossed in the process of molding.

Regarding the foregoing, readers are referred to the following pages for further information: Finishes, page 254; liners, page 256; types of closures, pages 240, 241, 246, 248, 250 and 253.

Closures may be divided into the following general classifications: Single seal closures, reseal closures, special closures and secondary closures.

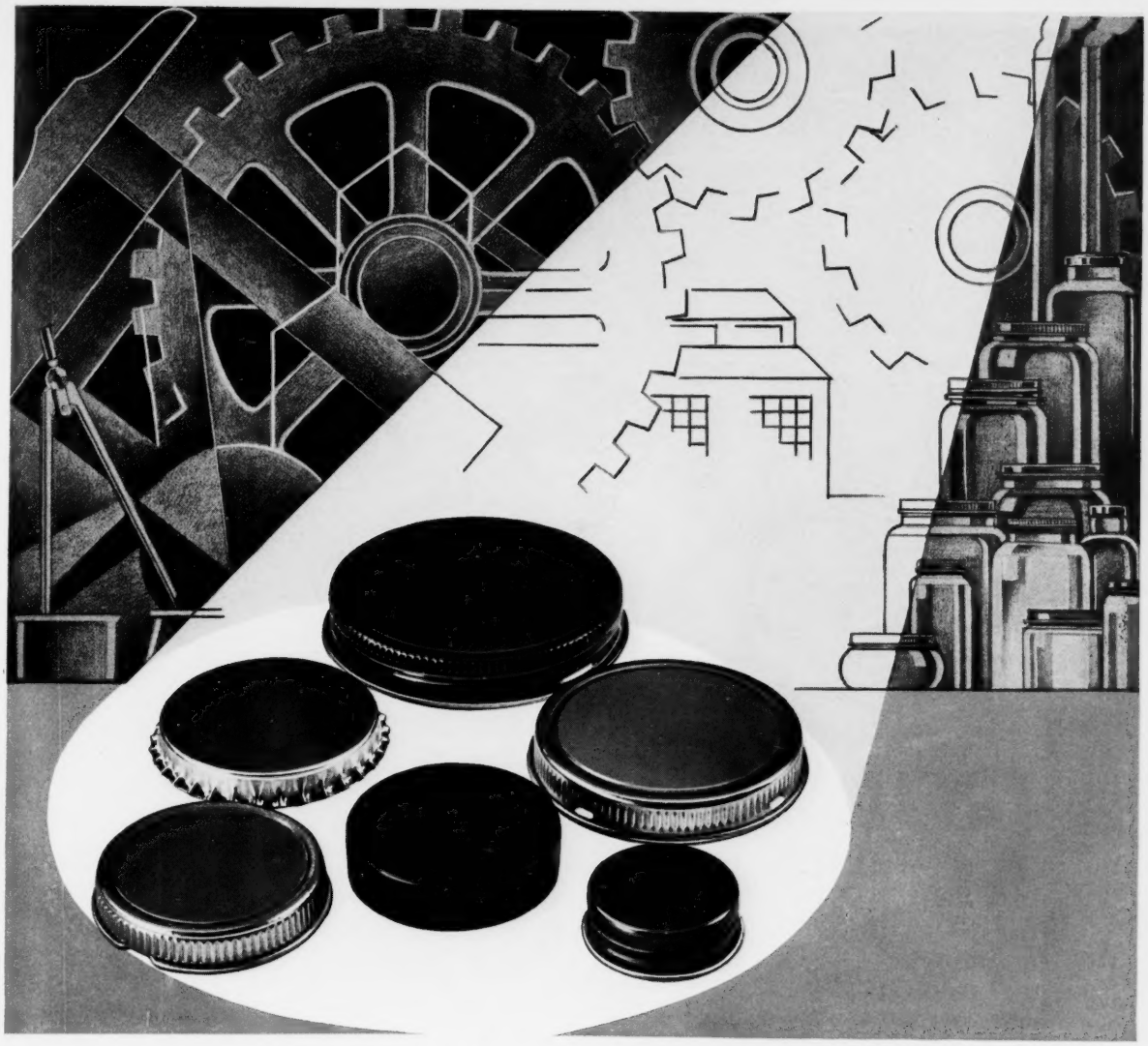
Single seal closures for glass containers are those primarily intended to protect and enclose the product in its container until it reaches the consumer—in effect, a "single seal" is accomplished. Once opened, however, the value of the closure is not destroyed for the cap can be used, in most instances, as a protection against dirt and dust. However, there are certain types of the "tear-off" variety which allow of no re-use.

Used only on tin containers are several types of single and re-seal closures, such as screw caps, friction tops, locked slip and draw slip covers, as well as those seals which are reamed or clamped on.

Re-seal closures are usually of the C T (continuous thread), interrupted threads, lugged, friction or pressure types. As indicated by their designation, they are used where a secure reseal is desired, although after they are once opened there is no protection of the product from atmospheric effects.

Secondary closures are those which are used to supplement other closures, either to obtain additional protection for the product or for decorative purposes. These may be variously classified as cellulose and gelatin caps, film seals and foil hoods. Cellulose and gelatin caps are supplied by the makers in dry form or emersed in a solution which enables them to be stretched by hand over the cork or other primary closure. In drying, these shrink and thus form an hermetic seal on the container. Obtainable in colors and in special designs with lettering or trade marks, these closures are quite effective in creating individuality for the package. Film seals are placed directly over the openings of bottles or cans and form a permanent seal until broken. Foil hoods or caps, most frequently used on wine bottles, are placed over the tops and extend part way down the necks of the bottles, usually being spun on to assure adhesion. A further description of these will be found on page 253.

Under *special closures* may be listed a great number of designs, patented and otherwise, which serve particular purposes in convenience and protectability. During the last few years many special closures have been developed for use in the liquor field, such as pilferproof, pouring and measuring caps. Likewise, in the food and drug fields there have been many modifications of standard type caps which permit greater convenience to the consumer of the packaged products.

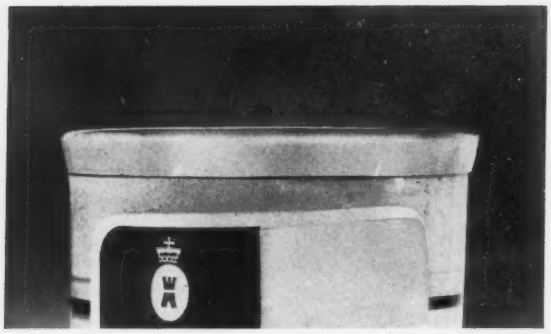


There's no substitute for KNOWING HOW

THE outstanding efficiency and dependability of CCS Closures are the result of nearly fifty years' experience as sealing specialists. A thorough knowledge of sealing problems and their solution is this Company's biggest asset. Every closure made in the CCS plant is a testimonial to this skill. No matter what your product, CCS facilities and long experience are your assurance of a better seal.

CROWN CORK AND SEAL COMPANY • BALTIMORE, MD.

WORLD'S LARGEST MAKERS OF CLOSURES FOR GLASS CONTAINERS



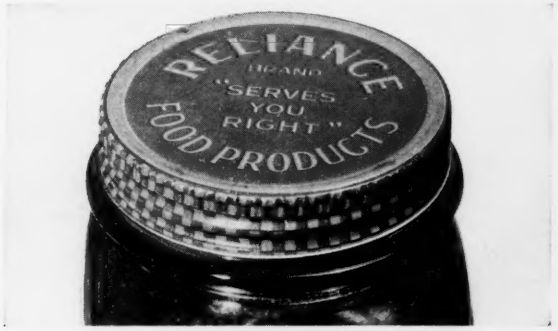
Whitecap, top seal for thin tumblers



Band cap, applied by crimping



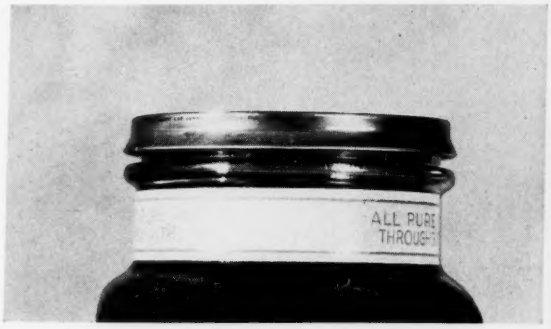
Vacuum cap (aluminum or tin) with ear for tear-off



Two-piece cap, wide mouth



Vacuum cap for wide-mouthed ware



Whitecap cap, pry-off finish



Crown caps, wide and narrow



Whitecap, single shell

SYLPHSEAL

(REG. U. S. PAT. OFF.)



Self-Sealing Viscose Bottle Caps and Bands

For Bottlers of Spirits and Wines
For Bottlers of Drugs, Cosmetics, Perfumes,
Chemicals and Food Products

SYLPHSEALS are made in many grades and finishes, transparent or opaque, and in many beautiful colors, plain or printed.

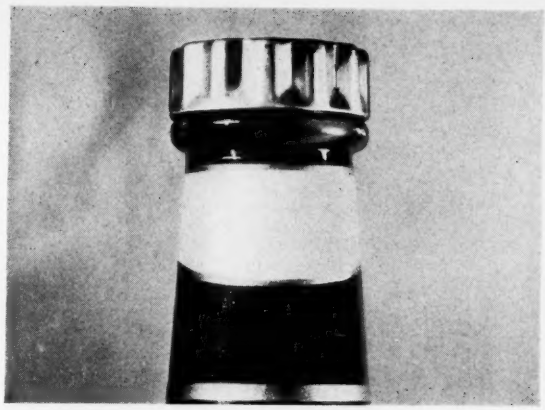
SYLPHSEALS hold bottle firmly in place so that contents of bottle will not leak or evaporate.

Contents cannot be surreptitiously handled or tampered with.

Dust, dirt and germs are excluded from bottle top and render package sanitary.

Proper selection of style and color of SYLPHSEALS will materially add to the attractiveness of the package.

[illegible] INDUSTRIAL CORPORATION
SYLPHSEAL DIVISION
[illegible] NEW YORK CITY



Whitecap, double shell



Anchor A clipper friction cap



Amerseal, one-piece and two-piece, narrow and wide. Quarter-turn cap sealed by means of interrupted thread



Aluminum Goldy seal, wide and narrow



C.T. caps (regular screw caps) of plastic, tin and aluminum. Also in glass, brass or zinc



Anchor R clipper friction cap



Sterling cap. Sealed under pressure or vacuum .



Crown lug cap



Aluminum roll on. Threads formed on container

CLOSURES CONTINUED ON PAGE 246

THERE'S *Sales action*

IN AN

OWENS-ILLINOIS



Sales



● **You may have the finest product and the most efficient salesmen, but there is one link in selling that can be supplied only by a *Sales*package—one that gets action for your product at the point of sale. This is the kind of package—a SALESpackage—that you get when Owens-Illinois Complete Packaging Service coordinates your whole container problem.**

Quality will hold customers who know your product, but a SALESpackage helps win new customers. Let our Packaging Research Division, with its knowledge of modern trends create a SALESpackage for you—container and cap... label and carton design—that demands preferred display space and fights for business at the point of sale.

PACKAGE

MORE THAN

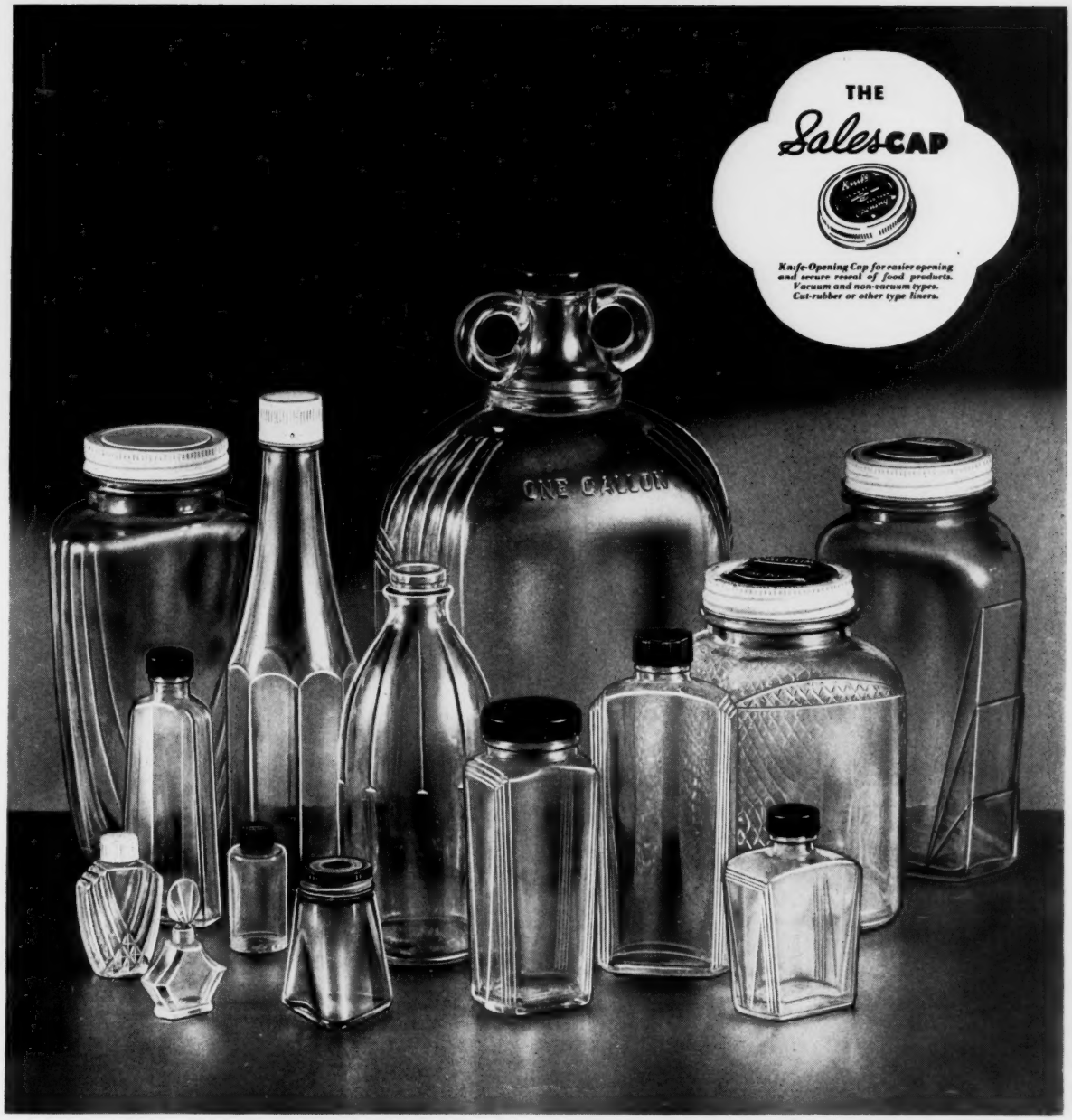
"just a container"

IF IT'S AN

OWENS-ILLINOIS



Sales



● **Owens-Illinois offers stock-mold *Sales*packages for every glass container requirement. Producers of Foods, Prescriptions, Pharmaceuticals, Proprietary Medicines, Beverages, Liquors, Cosmetics, and Dairy Products know it pays to consult our Packaging Research Division for their container, cap, label, carton and case. When business is on a definite upswing, your requirements may come suddenly. Owens-Illinois diversity of operation is your best guarantee of service. Depend upon Owens-Illinois for all forms of *Sales*package Service.**

Owens-Illinois Glass Company . . . . Toledo, Ohio.

PACKAGE



Friction cap for catsup and chili sauce bottles



Duplex cap, quarter-turn, sealed by down pressure



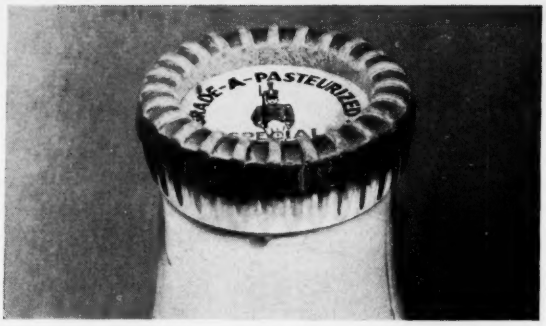
Cork-N-Seal, wide and narrow mouth



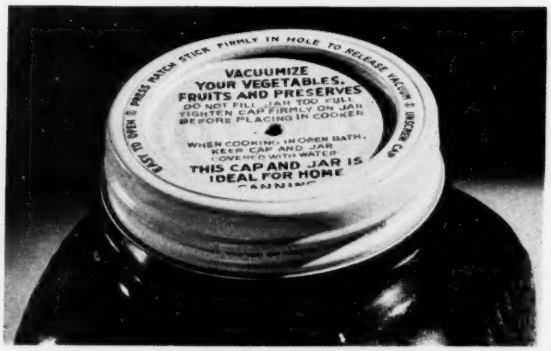
Left: Knife-opening cap. Right: Sentry seal



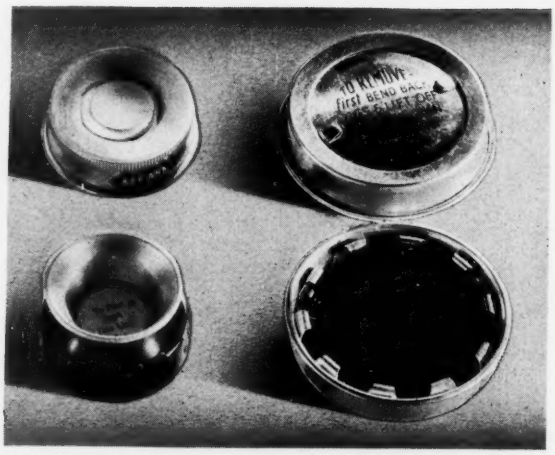
Left: Dacro disc sanitary milk bottle cap. Right: Vacuum pry-off hermetic seal



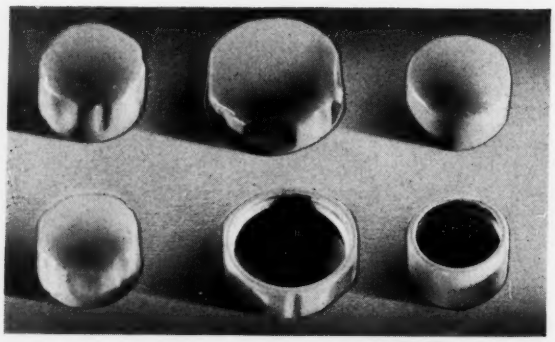
Seal-Kap sanitary re-seal cover



Armstrong Vacu-Vent cap

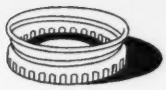


Left: Kep-Ark pouring seal. Right: Aridor Gripper-seal

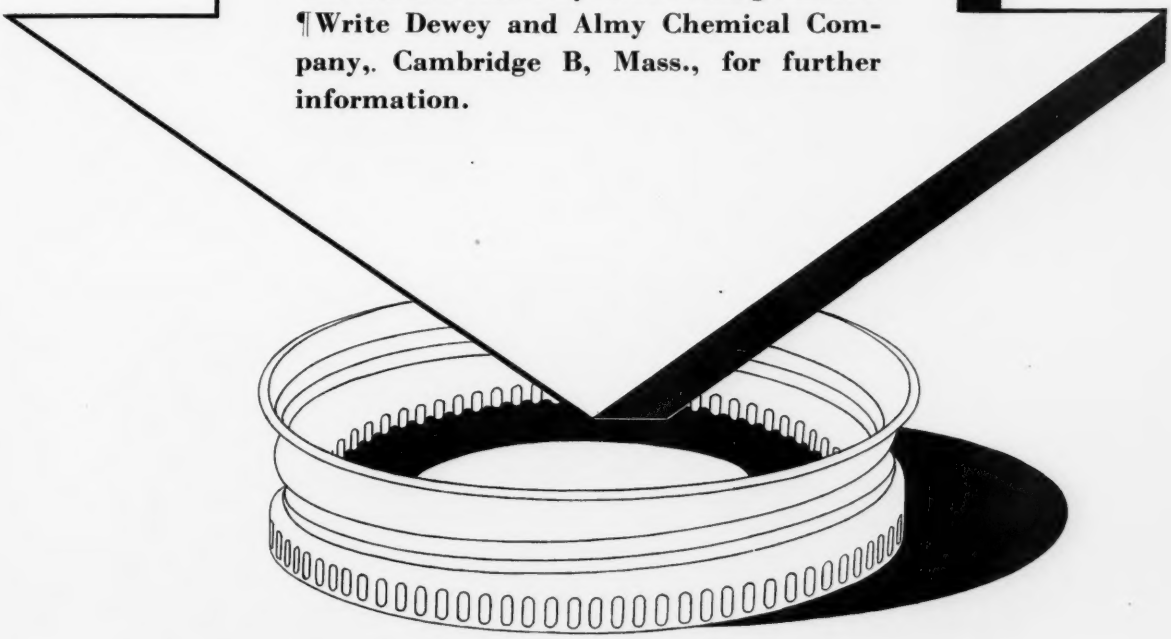


Aridor medium-deep I-T caps, round and square tops

CLOSURES CONTINUED ON PAGE 248

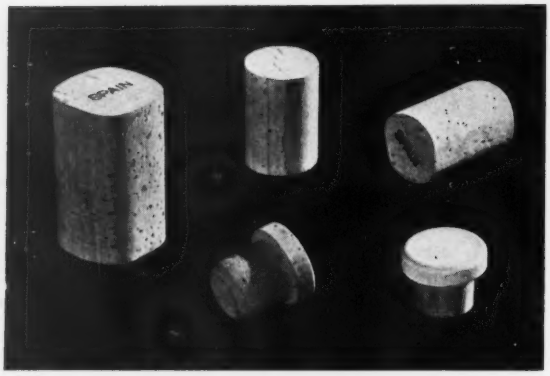


Whatever closure you select, don't overlook the importance of the sealing medium used. It's this thin plastic band which does the sealing, insures your product's reaching the ultimate buyer in the same purity as you made it — free from contamination or leakage — with unspoiled labels. ¶Experienced designers look for flowed-in gaskets of Gold Seal Cap Compound in their closures because of the plus value they get — safer packs with the extra feature of being easy to open, packages which build consumer acceptance and repeat sales. Remember, Gold Seal Cap Compound is made from virgin latex flowed into the closure. On drying, the seal becomes an integral part of the closure with only ONE sealing surface. ¶Write Dewey and Almy Chemical Company,. Cambridge B, Mass., for further information.



DEWEY & ALMY CHEMICAL CO.

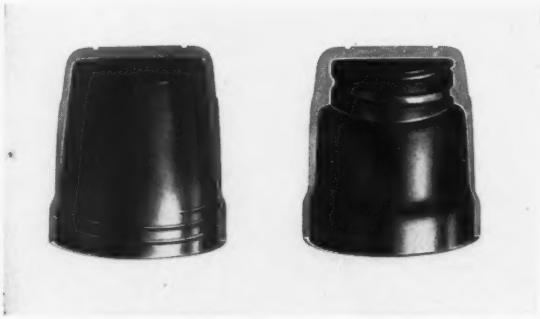
Container Sealing Compounds



Wine and liquor corks



Embossed top corks



Cover and sealing (Anchor) types of jigger caps



Barrol spout and cap, screw closure



Friction top, with or without inner seal



Newman closure, spun on



U Press-It, inside pressure sealed

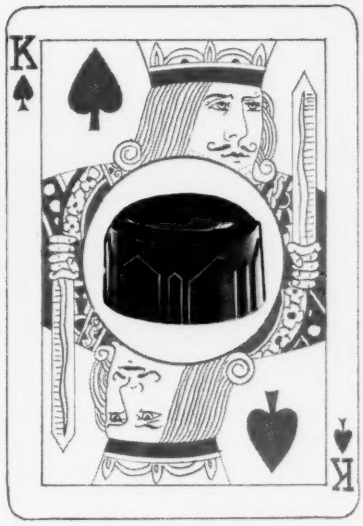


One-draw slip cover

CLOSURES CONTINUED ON PAGE 250

VICTOR
PLASTIC
CAPS

embody
The Dignity of a King
The Beauty of a Queen
The Strength of an Ace



Victor King Design

This closure with its graceful rounded crown and its obelisk side design, will add dignity to any container to which it is attached. Available in all sizes and colors.



A Victor Queen
(Private mould)

We show this beautiful 2-part cap to demonstrate our ability as masters in the art of making plastic closures. Have you ever seen a more exquisite closure than this cap in ivory and black? If you are interested in a cap for your exclusive use, consult us.



Victor Ace Design

The Ace closure, shown above, is tastefully designed with a decoration that affords an easy grip. You may have this closure in sizes from 8 to 15 and in all standard colors.

Located in the heart of the metropolitan district, close to the shipping terminals, we can make prompt deliveries to any part of the country. Protect yourself against shutdowns and delayed deliveries by placing your requirements in our hands.

Victor Metal Products Corp'n
196 Diamond St. Brooklyn, N. Y.



Interrupted thread cap with cut-in lug



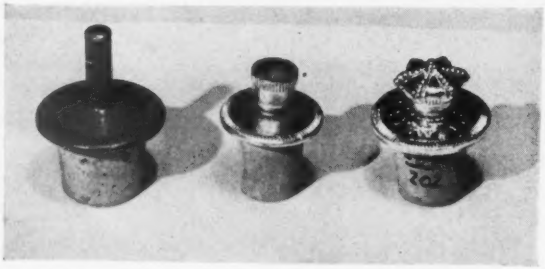
Foil and metal hoods, secondary seals



Molded C. T. caps of various plastics



Metal double-shell screw caps



Sprinkler tops, with or without spun-on features



Aluminum reamed-on caps, plain and sifter type



Cellulose caps, secondary seals



Filma-seals (top row) as applied to bottles, jar and can



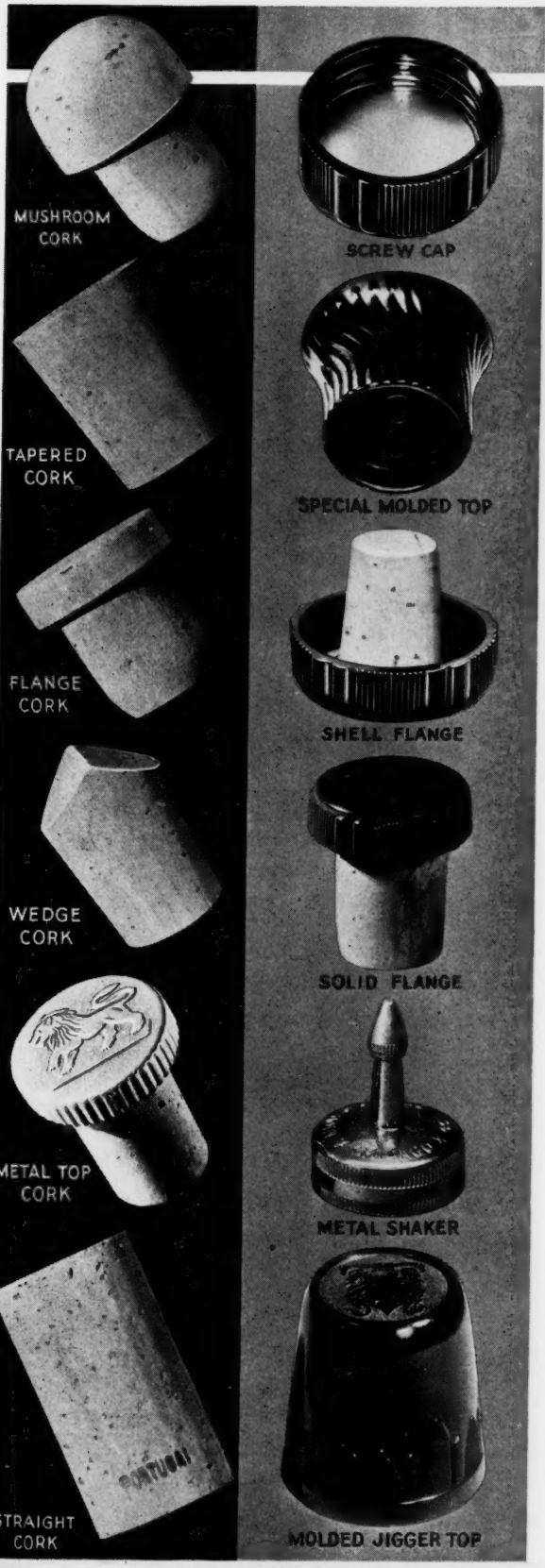
Secondary closures (molded) for mustard and catsup



Rubber spreaders and applicators

CLOSURES CONTINUED ON PAGE 253

MUNDET





CLOSURES

At your service... for the solution of individual sealing problems or the prompt supplying of standard closures: Our world-wide resources and 75 years of closure experience enable us to offer a most complete and dependable service. We manufacture a wide range of types, from the simple Cork to decorative molded and metal closures... in stock designs or made to special order. Good Cork is essential in meeting most sealing requirements. By controlling our sources of supply in Portugal and Northern Africa, we are able to maintain constant uniformity of quality for our closure products. You profit from Mundet's high standards when you use Mundet closures.

Write to us for further information about Mundet closures or for help in solving your closure problems. Free samples of our products are available on request.

MUNDET CORK
CORPORATION
65 SOUTH ELEVENTH STREET, BROOKLYN, N. Y.

Mundet Branches are Located in: Atlanta, Cambridge, Mass., Cleveland, Chicago, Cincinnati, Denver (care of Stone Hall Co.), Detroit, Houston, Los Angeles, Memphis, New Orleans, Philadelphia, St. Louis, San Francisco, Seattle (care Succop-Tighe & Sons, Inc.)

FOR THE CROWNING PERFORMANCE



"Caps OF ALL KINDS"

Aridor makes single and double shell metal caps in almost endless variety of size and style, for glass packed Foods, Drugs, Cosmetics, Wines and Liquors. Fine materials and extreme precision in manufacturing assure exceptional efficiency. Our well known "One-spin-and-it's-on" thread makes sealing and resealing quick and convenient. The special interlocking design on double-shells eliminates "spinners". Coatings of every shade, modern litho designs, embossing or debossing, special jobs like the exclusive Tipper Top ash-tray cap . . . there is no limit to the efforts we make to improve the sealing as well as the merchandising effectiveness of our customer's packages. And SERVICE?... ask any user of Aridor caps. Be from Missouri — ask us now to "SHOW YOU"!

© 1936

the ARIDOR Co.

3428-40 WEST 48TH PLACE — CHICAGO



ONE-PIECE SINGLE SEAL, REAMED OR CLAMPED



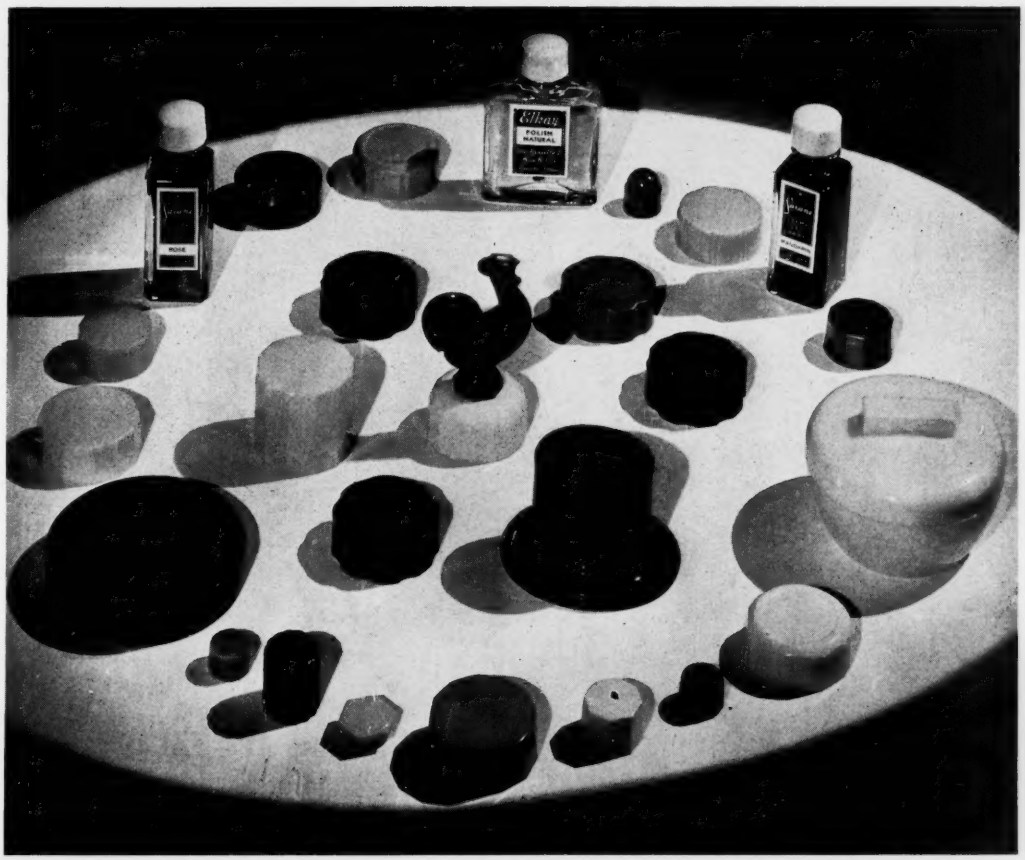
LOCK-TITE SLIP COVER

Metal Foil Capsules

Metal foil capsules or hoods are perhaps most familiar to packagers as decorative tops for wine bottles. It was in this capacity that they were introduced from Europe in 1933. More recently they have found additional uses for vinegar and tomato juice bottles and other containers in the food industry, as well as for numerous drug products. Foil capsules of aluminum and a composition of tin and lead are now manufactured in this country and are available in several sizes, designed to fit practically any type bottle. They cover the entire top and stopper as well as the upper portion of the neck.

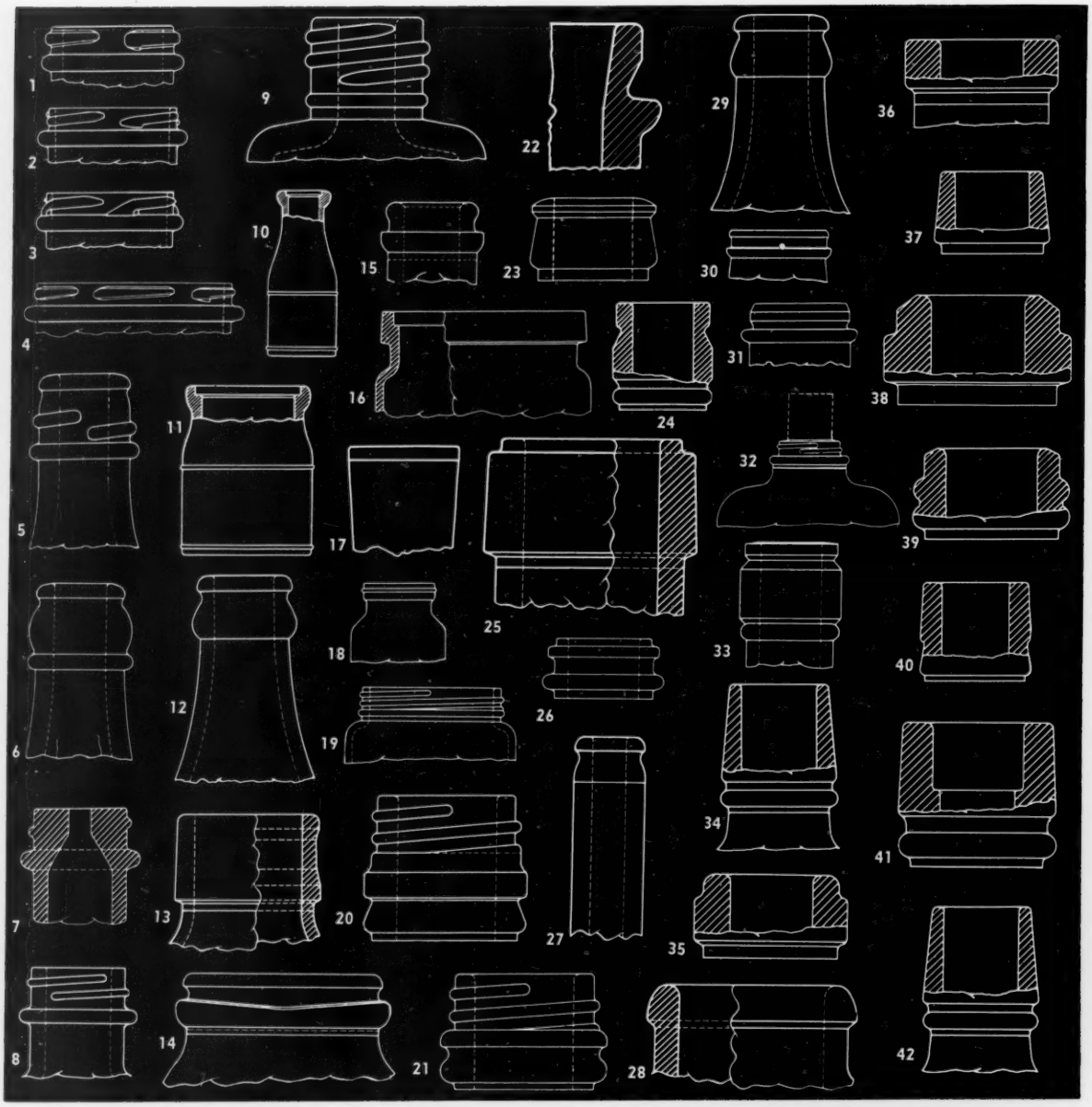
The bottler receives the capsules from the foil mill, cut to size and ready for application. Either hand or automatic sealing machines are employed, depending on the requirements of the individual winery. A special adhesive is applied to the inner surface of the foil, at the mill, and the capsule is moistened immediately before application. This dries to a firm bond so that it is impossible to remove the capsule without destroying it.

A variety of colors are available, including black, white and gold. Colors are applied by means of lacquers, either transparent or opaque. Frequently the capsules are embossed. The range of colors is wide and it is possible, within reasonable limits, to match any desired shade. It is possible to reproduce any trade mark in colors, either on the top or side of the cap.



Plastic closures, molded from phenol and urea resins

GLASS FINISHES FOR CLOSURES



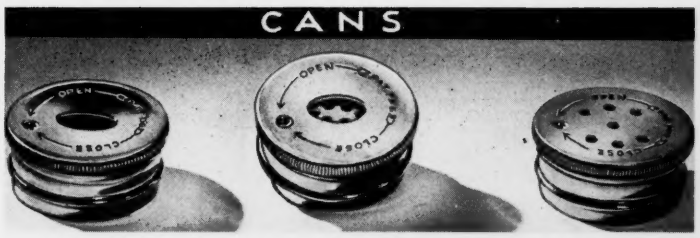
Diagrams furnished through the courtesy of the Glass Container Association of America

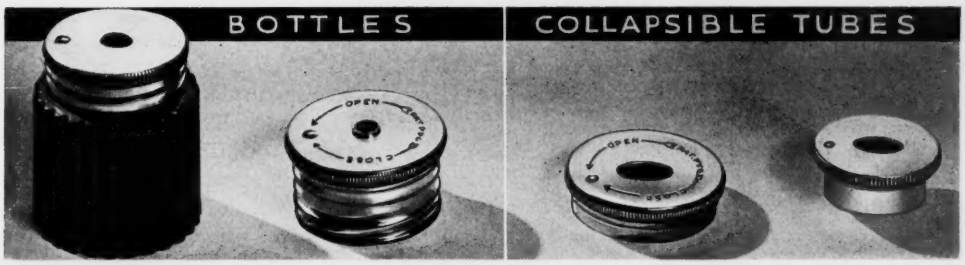
Fig. 1. Two lug Amerseal
Fig. 2. Four lug Amerseal
Fig. 3. Four lug vacuum Amerseal
Fig. 4. Six lug Amerseal
Fig. 5. Combination screw cap
Fig. 6. Combination friction cap
Fig. 7. All glass sprinkler top
Fig. 8. Shallow continuous thread
Fig. 9. Tall continuous thread
Fig. 10. Milk bottle
Fig. 11. Cottage Cheese jar
Fig. 12. Crown beverage
Fig. 13. Save-a-seal
Fig. 14. Variable ledge Priof
Fig. 15. Kork-N-Seal standard
Fig. 16. Band cap
Fig. 17. Anchor or friction
Fig. 18. Anchor bead
Fig. 19. R. O.
Fig. 20. Tamper-proof and alter-proof
Fig. 21. Roverseal
Fig. 22. White Pry-off
Fig. 23. Goldy
Fig. 24. Long Corseal
Fig. 25. Super-seal
Fig. 26. Super Crown
Fig. 27. Small size Crown
Fig. 28. Upressit
Fig. 29. Non-pressure Crown or Goldy
Fig. 30. Straight ledge Crown Pry-off
Fig. 31. Pry-off for Anchor "F" cap
Fig. 32. Combination cup cap
Fig. 33. Frankfort style
Fig. 34. Brandy cork
Fig. 35. Sauterne or cognac
Fig. 36. Square ring cork
Fig. 37. Gin
Fig. 38. Champagne
Fig. 39. Italian vermouth
Fig. 40. Standard wine
Fig. 41. Glass stopper and shell cork
Fig. 42. Guardian safety seal

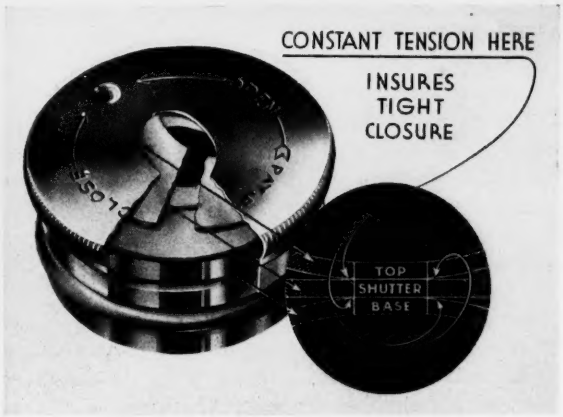
THORN TITE TOPS

the perfect captive closure!









These patented captive closures are available in many styles, in brass, steel, aluminum or tin with nickle, chrome, enamel, lacquer or plain finishes, styled to harmonize with every type of package. They are fool-proof and "fail-proof," don't leak and don't clog! Their effect on sales and dealer and consumer satisfaction has been proven time and again, in the open market.

See for yourself what a change a Thorn Tite Top can make on your own packages. Send us sample packages. We will return them, equipped with Thorn Tite Tops, without obligation to you.

THORN TITE TOPS, INC.

331 Madison Avenue, New York City, MUrray Hill 6-2935

LINERS FOR CAPS

CLOSURE EFFICIENCY, to a considerable extent, depends upon the liner. It is the liner that comes in contact with the product and makes the actual seal with the glass. A liner usually is composed of two parts: the liner surface that touches the product, and the liner backing that provides resiliency and resistance. The selection of each should receive consideration as to the function to be performed by each.

The surface material must be carefully specified to withstand any possible chemical action or deterioration from the properties inherent in the product. It must be selected according to product characteristics in order to function properly.

The function of the liner backing is practically the same with all products. It, too, must be carefully specified with due regard to a number of factors. Among these are flexibility, softness, uniformity, economy and the ease of working.

From the standpoint of assisting the spring seal action of the cap itself, in making an airtight, leak-proof seal the liner backing must have the correct amount of firmness or compressibility, as well as the greatest possible resiliency. The material should not be too easily compressed or too soft, because a certain degree of firmness is essential in order that the seal does not loosen.

The highest degree of resiliency is desirable so that there will be a constant tendency of the backing material to resume its former thickness (before being compressed), thus insuring that, after the cap is applied, the seal will remain tight and secure during service.

When the use of liners was confined to crown caps, for which they were originally devised, the problem was not a trying one. It was answered satisfactorily by disks of natural cork or of cork compositions that would hold the comparatively simple and chemically inert carbonated or low alcoholic beverages which were sealed with crowns. However, with the development of screw caps and other types of mechanical closures, the liner problem became more complex.

Many materials have been developed for the purpose, but still there remains the question of determining which particular one to use for a specific product. Logically enough, the cap manufacturer has shouldered the job of answering this question for those who contemplate using his caps. The packer can and should by all means submit sample packages of his product and a chemical analysis of it to the cap manufacturer for laboratory tests to find out the kind of liner it requires.

Cork compositions produced by granulating high-quality corkwood, introducing a binder, and compressing into blocks from which sheets or ribbons are cut, are widely used as lining materials. Disks of natural cork are also used to some extent but due to the limited supply of corkwood that is largely free from pores and other defects, its use is restricted. Compositions serve equally well except in that the introduction of a binder and the presence of interstices in the surface make them susceptible to some chemical reactions.

In addition, it has been found advantageous in some cases to treat the cork composition with paraffine or other waxy materials. Such treatment often makes a plain cork liner satisfactory. However, these treatments should always be used with caution for it must be remembered that there are many liquids with which they should not be used.

A great variety of liners is produced by applying a facing material over the cork composition. This operation is ordinarily referred to as "duplexing." The cork gives the liners the necessary thickness, strength and resilient compressibility, while the facing, which is presented to the contents of the package, resists chemical action. The facing materials used are varnished papers, paraffined papers, tin foil, aluminum foil and lead foil, in addition to foil backed with paper.

Varnished papers, which are probably the most widely used of all liner facing materials, have been appropriated and developed from the electrical insulation business. They have different chemical characteristics depending on the formula used in making the varnish. Two pieces may be identical in appearance and yet vary greatly in performance. Careful tests of varnished papers must be conducted before selecting a specific kind of quality for a product. Sometimes varnished papers are coated with paraffine in order to lubricate the surface and prevent tearing, due to roughness of the bottle, when the cap is screwed on. This safeguard cannot be used if the liners are to seal products which dissolve the paraffine.

The newest development in liners has to do with the film type of facing, such as Pliofilm and Vinylite. These materials, which cannot be rightfully classified as varnished papers, have received acceptance by the trade in the last year and a half. They are being used largely where extreme conditions of acidity, alkalinity and solvent resistance are encountered.

Tin foil-faced cork composition has a large field of usefulness as a lining material due to the fact that it withstands contact with a wide range of chemicals. However, it also has definite limitations and is more expensive than varnished paper. To give tin foil added strength and a better appearance, a lining material has been developed in which very thin foil is backed with a reinforcement of paper. In some instances aluminum foil and lead foil are also being utilized.

Pulpboard is still another such material which may be had in the various facing combinations mentioned. Rubber is also used for liners.

SECTION 7

LABELS pages 258–270

GLASS CONTAINER LABELS
PAPER BOX LABELS
TIN AND FIBRE CAN LABELS
SHIPPING LABELS
STOCK LABELS
PACKAGE INSERTS

REFERENCES

Design Principles	36–52
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Printing	404–426

PACKAGE LABELS

FROM time immemorial the label in its many different forms has served as a means of identification and to establish authenticity. The label was born of man's pride of possession, and long prior to the invention of the art of writing, as far back as 4000 B.C., articles were labeled with distinguishing marks such as crosses. Egyptian wine merchants, about 3000 B.C., labeled their jugs with mud seals. The early Chinese emperor Hung To, in 2698 B.C., discovered the art of making pottery and decreed that all pottery must be identified with the name of the reigning sovereign, the name of the maker and the place of origin. Chinese artists labeled their masterpieces with such legends as, "If you like my painting you may find me at the bridge of Man Chu."

In ancient Egypt labels were made of wood, alabaster, copper and an alloy of silver, gold and copper, while in Babylonia and Assyria labels were made of clay, pressed upon string, with which bales of goods were tied, as well as being appended to animals and slaves to identify them. The predecessor of the present condiment label is unquestionably to be found in the jars found in the ruins of Pompeii, containing the Roman delicacy, fish sauce, one of the labels reading: "Scaurus, Tunney Jelly Blossom Brand put up by Eutyches, Slave of Scaurus."

The first written advertisments to appear on the streets of early Rome, were used for publicizing lost or found articles, and were called "Libelli" which probably is the origin of the word "label." Present-day labels, designed in all colors, on endless varieties of stocks, and reproduced in all forms of the graphic arts, are a great advance over these early attempts at identification, but are indicative of the progress man has made, and of the wealth of materials, processes and experience now available.

Papers which are well suited for labels may be classified under four general groups:

1. Coated Papers, including flint and glazed (shiny finished) and plate (dull finished) in all colors; pearl and pyroxylin finishes; marble agate; and cotton, silk and wool velour or suede finishes.
2. Metallic and Foil Papers, coated or covered to give the luster of metals—either shiny or satin finished —and available in gold, silver, bronze and wide range of colors.
3. Printed Papers, made by all standard processes in all colors, with wide variety of specialties such as leather grains (alligator and snakeskin), wood grains, etc.
4. Transparent Papers, in all forms of glassine and cellulose both fully transparent and semi-transparent.

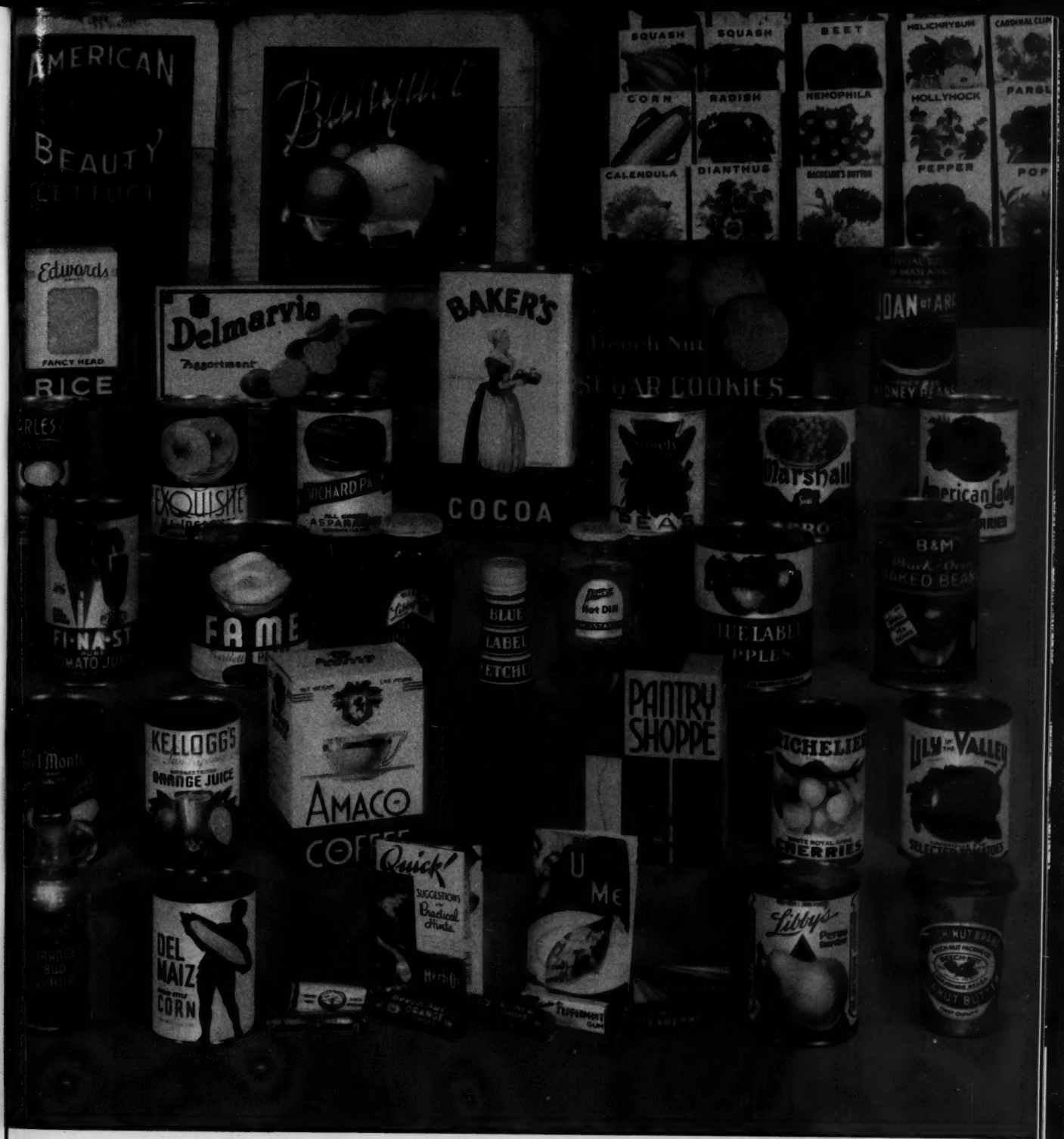
Common characteristics of all label papers are that

Front panel labels for glass containers, plain and die-cut, printed and embossed, on foil and plain papers, their primary function being ready identification



Special position labels, frequently used on varying types and sizes of glass and paper containers, as a stamp of approval, decoration or to establish product origin





Selling THRU EYE APPEAL

STECHER-TRAUNG LITHOGRAPH CORPORATION

ROCHESTER, N.Y. - SAN FRANCISCO, CALIF.

LABELS - CARTONS - PACKAGE WRAPPERS - PACKET ENVELOPES


STECHER-TRAUNG
ROCHESTER, N.Y.
● Complete and Modern Plant for Quality Lithography.
● Focal point for ten Eastern Sales Offices in principal metropolitan areas.
SEATTLE
PORTLAND
SACRAMENTO
SAN FRANCISCO
OCONOMOWOC
CHICAGO
BOSTON
ROCHESTER
NEW YORK
BALTIMORE
FRESNO
LOS ANGELES
MACON
SAN ANTONIO
Nation Wide Service
STECHER-TRAUNG
LITHOGRAPH
CORPORATION
STECHER-TRAUNG
SAN FRANCISCO, CALIF.
● The Twin Plant of the West, Complete and Modern.
● Eight Sales Offices located at important centers for Customer Service.

they may be plain or embossed, uncoated, varnished or lacquered, gummed for labeling by hand, or ungummed for automatic labeling, printed by letter-press, lithography, intaglio or rotogravure process and die-cut into practically any size, shape or form. It is due to this galaxy of materials and processes that the marked improvement evident in modern labels is to be attributed and accordingly credited.

Glass Container Labels

The glass container, because of its transparency, permits the color, size and general quality of a product to make its own appeal to the consumer—appetite-tempting in the case of foods, cleanliness and sanitation in drug products, beauty in cosmetics. Labels used on glass containers are therefore held within definite size limitations ready visibility of the product as it is seen by the consumer.

Common practice has established the use of two, and sometimes three, small labels, rather than attempting to include all copy on one large label, which would hide much of the product. The uses for these several labels are: (1) front panel identification, confined to product name, trade or brand name and mark, net contents and possibly a small illustration. Since this label is the one first seen by the consumer, as the package rests on the dealer's shelf, it is necessary that it performs its job of identification as simply, clearly and legibly as possible; (2) back-panel direction and information, giving suggestions for correct use of the product, its history or origin, suggested recipes, and manufacturer's name and address; and (3) special position labels, such as a neck band on a condiment bottle giving a list of the ingredients used in its preparation, or a special embossed seal, handled independently of the main label, which may serve as a stamp of approval testifying to the product's high quality. In many cases, where space permits, the closure is printed saving the expense and labor involved in printing and affixing an additional label.

Major attention is devoted to the front panel label, which is used chiefly for identification, because this exerts the greatest influence on the consumer prior to, and in the process of purchasing. While the majority are round or oval in shape they may be made square, oblong, diamond, pentagonal, hexagonal, octagonal or star and crescent shaped. By standardizing on one shape, such as the keystone adopted by Heinz, or a particular and distinctive color combination, such as buff and brown used by Squibb, a manufacturer has an added means of readily identifying his products in the consumer's mind. Inasmuch as the back panel is given over to necessary information concerning the correct use of the product, and is invariably read when the package is in the consumer's hand, there is no necessity for its being decorative in nature or the type unusually large in size, in fact careful organization of copy and maximum legibility should be its major concern. While it may well harmonize with the front panel label, in color and paper used, it will probably best serve its purpose if made in the shape of an upright oblong, which



Transparent cellulose labels which create smart appearance, the design showing in relief against transparent background in color of the bottle or jar

will permit of considerable copy being included in sizable type without crowding. In some cases, where the product is a transparent liquid, the copy ordinarily placed on a back-panel label may be printed on the reverse or glued side of the front-panel label, where it may be seen and read by the consumer through the liquid. While saving the cost of a second label it is not as readily visible to the consumer and may be overlooked.

Size and shape of a label will be influenced by the glass bottle, jar or vial on which it is to be used, with which it should harmonize. In color and design treatment it should strive to enhance the value of the product in the consumer's mind. Its function is not to compete with the product for attention, but rather to supplement it, giving a word picture describing and identifying the product which the consumer already sees inside the glass container. Since the advent of transparent cellulose labels, on which it is possible to apply a permanent design and lettering, which are impervious to stains, water and grease, a new type of label is available to the progressive manufacturer. The color effects created by such labels, due to the transparent background, are attractive to the eye, and the design in relief, on the surface of the container, whether white or colored, creates an ultra smart appearance. Copy appearing on the label should be reduced to a minimum, consistent with adequate identification and description of the product, and in compliance with the several Federal and State laws. Inasmuch as the label becomes part of the complete package it should neither be overly or underly dressed; it should in all respects join hands with the product and the glass container in making the ensemble one that will be seen, wanted and bought by profitable numbers of logical, potential consumers.

Paper Box Labels

In their use on various types of paper boxes, labels serve the purpose of completing these packages, as follows:

1. In the designing of fancy set-up box covering papers it often adds to their effectiveness to use a small, colorful embossed label either as the central part of the design or as an auxiliary thereto. Particularly in the case of gift packages, it is common practice to use one or more small labels or seals either to hold the ribbon in place or act as additional decorative touches. On certain candy boxes these labels are perforated in the center, one end bearing the maker's identity or product name being firmly affixed, while the other half, bearing the price information, may be torn off at the time of purchase, if the package is to be used as a gift.

2. Many products, packaged in multiple units, utilize plain unprinted set-up or folding boxes with top and end labels serving the purposes of identification. Thus a plain mist-grey box containing forty-eight hardware units, through an end label containing the product name, stock number, size, number of units, resale price and manufacturer's name is completed, and whether in a jobber's or retailer's stock gives all necessary information. From the manufacturer's standpoint this represents definite packaging economies, for the same box may be used for several different products, or varying sizes of the same product, simply through the use of more or less standard labels, which are appropriately imprinted. Drug items, shoe polishes and countless other items are packaged one dozen individually cartoned units in a bleached manila folding box, many of which owe their identification to top and end labels which are pasted on prior to shipment from the factory. Since labels of this character are intended solely for jobbers' and retailers' use there is no necessity of making them decorative, multi-colored or eye-compelling. Ready legibility of the type matter and placement of the labels to conform with usual storage methods will be the chief points considered.



End label for paper box giving product name, description and manufacturer's specifications as to number, size, quantity and suggested resale price

3. Uncooked cereals, pancake and cake flours, crackers and many other products which must be kept free from contamination from the outside are automatically packaged in plain seal-end unprinted folding carton shells, with a complete overall label or wrap as the final and exterior surface. These are of two kinds, (1) those that are spot-glued only at certain points, and (2) tight-wraps which are glued tight to all six surfaces of the inner shell. In making labels or wraps of this character it is imperative that the paper stocks be non-curling, in order to avoid trouble when the underside is covered with glue. While the majority are of plain paper, a new development is the use of stock which is paraffined on the outside, over the printed surface, giving added protection to the product. When used for food products which are completely hidden from view and cannot be inspected prior to purchase without destroying the package, it is being found increasingly necessary and desirable to show an illustration of the product, in its ready-to-be-eaten form, on the label. This frequently necessitates the use of four-color process halftone engravings; however, from a sales standpoint, there is no denying the appetite-appeal of a realistic illustration of a plate of wheatcakes, and experience proves it to be exceedingly profitable. As a means of bringing out the full colors and to keep these packages clean, fresh and attractive, during the period of their use in the home, it is advisable that these labels be varnished or lacquered.

Folding carton label or wrapper, affixed to and enclosing all six sides of plain, unprinted shell. Extensively used for cereal, salt and sugar packages to avoid sifting and prevent outside contamination of product



Tin and Fibre Can Labels

Can labels possess certain individual characteristics, not present in other forms of packages, chief of which are the following:

1. The majority of cans being round in shape, labels for them call for the treatment of spherical rather than horizontal surfaces.
2. A bottle or box label occupies a relatively small portion of the exposed package surface, whereas it is customary to have the can label completely cover all of the exposed surface.
3. Since products packaged in cans are hidden from view, making it impossible for consumers to see or examine the contents prior to purchase, it becomes necessary for the can label to illustrate or otherwise convey an accurate description of the

The Fent-Onamel DeLUXE GOLD TINT GUMMED LABELS

Fent-Onamel

So long as the outside is outside of the inside; the outside should create a favorable impression for the inside.

Appearances do count! Make them count in favor of your product by using FENT-ONAMEL labels.

The distinctive package allures, intrigues and coaxingly says, "Take Me!"

Use FENT-ONAMEL labels.

Please: before reading this message; examine carefully--critically, these illustrations of FENT-ONAMEL DeLuxe Gold Tint labels.

You noticed at first glance that they are something **distinctly different.** The background is delicate and softened to bring into alluring contrast:

Your Name and Message.

Very few labels do this.

With subdued background, your message in iridescent letters, instantly attracts and holds attention.

Labels of flashy tinsel background obscure your message. FENT-ONAMEL DeLuxe labels are rich, not gaudy---good taste offends none.

Tinsel tarnishes, but FENT-ONAMEL will retain its luster and iridescence permanently--It's Pyroxylin Protected!

FENTON LABEL COMPANY, Inc.

506-12 Race St., PHILADELPHIA, PA.

Fent-Onamel Labels are



No. 403



No. 712



No. 95



No. 457



No. 1290



No. 640



No. 980



No. 806



No. 693

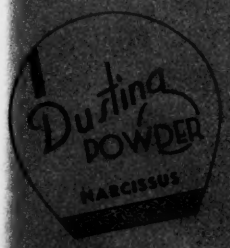


No. 1073



FENTON
506

...e Distinctly Different!



No. 1347



No. 529



No. 579



No. 301



No. 446





No. 374



No. 336



No. 130





No. 215

Write for

...nc.

The New
FREE CATALOG

"THERE'S A REASON!"

The new FENT-ONAMEL DeLuxe labels are Platinum and Gold Tint, finished with blue-black. FENT-ONAMEL gummed labels are **Distinctly Different** from the ordinary.

Of course, "**There's a Reason!**" There are several.

- The materials used and the methods of making FENT-ONAMEL are as remote from the average as their appearance.
- The background is delicate and softened to bring into alluring contrast: Your Name and Message.
- The Gold and Platinum are Pyroxylin Protected, and will not tarnish nor scratch.
- With your finger nail, or even a pen-knife try to scrape off the lettering or background without taking the paper with it.
- The FENT-ONAMEL process uses no electrotypes, and the impression does not vary 1/1000 of an inch. Mathematical accuracy displaces guess work and entirely eliminates expensive make-ready.
- The FENT-ONAMEL colors are mixed, ground and thermal applied by our own special machinery.
- The adhesive is powerful, and sticks instantly when moistened. FENTON LABELS STICK AND STAY STUCK.
- FENT-ONAMEL labels are made in over 2000 shapes and sizes; both square-cut and die-cut. No matter what size is required, we probably can furnish it.
- FENT-ONAMEL is trade-marked and protected by the U. S. Patent Office. You can not buy FENT-ONAMEL labels, nor anything that nearly resembles them, except from the makers.

These are a few of the reasons why over 130,000 concerns purchase FENT-ONAMEL labels for their packages.

Write for the New FREE CATALOG, which includes samples and prices.

FENTON LABEL COMPANY, Inc.

506-12 Race St., PHILADELPHIA, PA.

Label

XUM

RUBBER POLYMERS *will . . . !*

R.J. KITTREDGE & CO.

812 WEST SUPERIOR ST. • CHICAGO, ILLINOIS

Label Designers & Manufacturers - Protective Coatings of All Kinds

product to assist the consumer in reaching a buying decision.

4. Canned products are invariably displayed on shelves, rather than on counters or aisle tables, making it necessary for them to be clearly seen an average of six to ten feet away.
5. While adhesives have no injurious effects on glass or paper packages, it is a fact that wet paste on tin will cause rust.

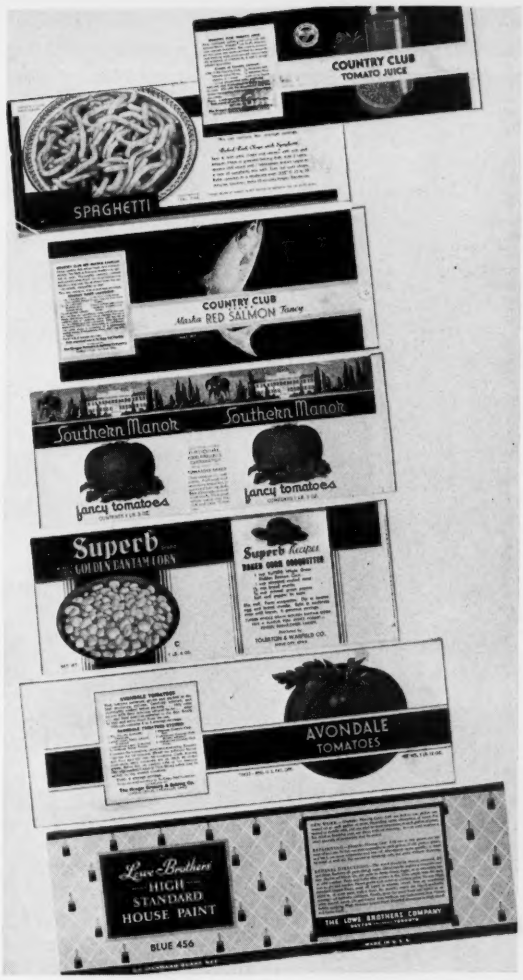
Time and trouble will be saved by making sure of the correct length and width of can labels. To determine the correct length of a label, add $^3/_4$ in. to the distance around the body of the can, so that the paste will be kept between the two thicknesses of paper, avoiding possibility of rust forming on the can. To determine the proper width deduct $^1/_{16}$ in. from the distance between the can flanges, and on slip cover cans deduct $^7/_{32}$ in. from the distance between the inside of bottom flange and the top edge of the lid. The slight clearance provided will assure greater speed and better labeled cans than by attempting to get the labels to fit snugly.

The following are dimensions for standard size labels for double seamed cans of the widely used sizes shown:

Type	Can Size	Label Size
No. 1	$2\ ^{11}/_{16} \times 4$ in.	$3\ ^{11}/_{16} \times 8\ ^{15}/_{16}$ in.
No. 1 Tall	$3 \times 4\ ^{11}/_{16}$	$4\ ^3/_8 \times 10\ ^1/_{16}$
No. 2	$3\ ^3/_8 \times 4\ ^9/_{16}$	$4\ ^1/_4 \times 11\ ^1/_8$
No. $2^1/_2$	$4 \times 4\ ^{11}/_{16}$	$4\ ^3/_8 \times 13\ ^1/_8$
No. 3	$4\ ^1/_4 \times 4\ ^7/_8$	$4\ ^9/_{16} \times 13\ ^{13}/_{16}$

White glue laps are more effectively sealed than either inked or varnished ones because any paste adheres less thoroughly to the latter. For this reason the label design and varnished surface should extend only about $^1/_{16}$ in. longer than the distance around the can body.

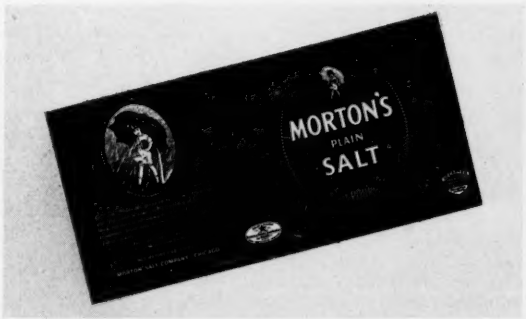
High quality can labels are made of 25 × 38—55 or 60 lbs. to 500 sheets, either of coated litho or supercalendared papers. Where the label is to be heavily varnished, the stock should be lighter, usually running 52 lbs. to 500 sheets of the same dimensions. The grain of the paper should run lengthwise on all labels excepting



those to be pasted all over and shrunk on containers, such as those used for baking powders and cereals, when it should run crosswise or with the width of the label.

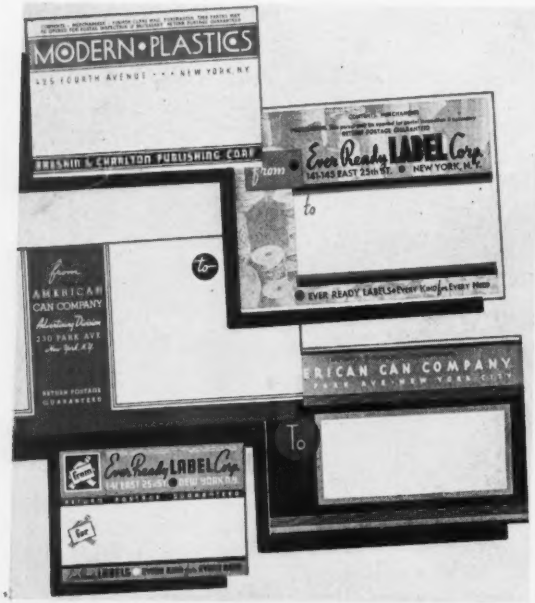
It has long been a practice to feature colorful illustrations of raw fruits and vegetables on can labels, but great improvements have been made through the use of process-color printing and direct color photography featuring the products cooked or otherwise prepared ready to be eaten, which are much more appetizing and sales-compelling. While there is a large amount of space available on a can label the display space is limited to the small surface visible to the consumer, when the can stands on a retailer's shelf. This calls for careful placing and arrangement of the several parts of the design and text to make it effective. Here again new standards have been set by deliberately using what might be termed the "front" of the can label for a large and appetizing illustration of the product with the product name readily legible in large type, while such other data as trade mark, manufacturer's identity, recipes and directional information appear on the back. The reason advanced for this arrangement is that the consumer is primarily interested in the product, such as apple sauce or peaches

Morton's Salt label or wrapper is representative of modern fibre can labels. Group of tin can labels, at upper right, shows trend in food and paint package label treatment



and will ask the dealer to take a can off the shelf for closer scrutiny, if the illustration arouses her interest, at which time she can read the additional data provided.

As has been proven in many cases, while it costs more to produce labels using realistic full-color illustrations, their added cost is soon more than compensated for by the additional sales they create. And since it is a natural desire to see, feel, smell, taste or otherwise test the goods to be purchased, all of which are denied by the opaqueness of the cans, it is particularly necessary for these labels to picture by illustration and text what the product is, what it will do and what benefits the consumer will secure through its purchase and use.





Shipping Labels

Labels of this classification are used for two purposes:

1. Addressing, handling and delivery of all kinds and sizes of paper, fibre and corrugated shipping containers; metal cylinders and drums; wooden crates, boxes and barrels; burlapped rolls, whether shipped by messenger, truck, mail, parcel post, express or freight.
2. Supplementary instructions for handling shipments and inspection or servicing en route.

Shipping labels must primarily provide space for the complete name and address of the recipient, with adequate identification of the sender. Their utilitarian qualities do not preclude the possibility of their serving in some degree as advertisements, through the inclusion of trade marks, advertising slogans or specific illustrations or mention of the product being shipped. The majority of shipping labels are made of gummed stock so that they may be securely pasted to the shipping container, avoiding any possibility of becoming unattached during the shipping period.

Supplementary instructions include: specification of contents, such as Merchandise (4th Class); instructions in case of non-delivery, such as "Return and Forwarding Charges Guaranteed"; postmaster instructions, such as "This parcel may be opened for postal inspection if necessary"; caution directions, such as "Lamp Shades—Please Use Care—Fragile"; or some special message, such as "Via Air Mail," "Special Delivery," "C.O.D." or "From Advertising Department" and like admonitions.

The kind and number of shipments made annually will determine whether: special labels printed with instructions for each kind of shipment are to be used, or one standard label, for all kinds of shipments, with special instructions covered by separate "stock" or "general utility" labels for supplementary data. Certain label manufacturers maintain stocks covering all forms of shipping and precaution labels which may be more economical to use than individually printed labels. But by making sure that all shipping packages are properly labeled it will save time, money and promote good-will and confidence among customers.

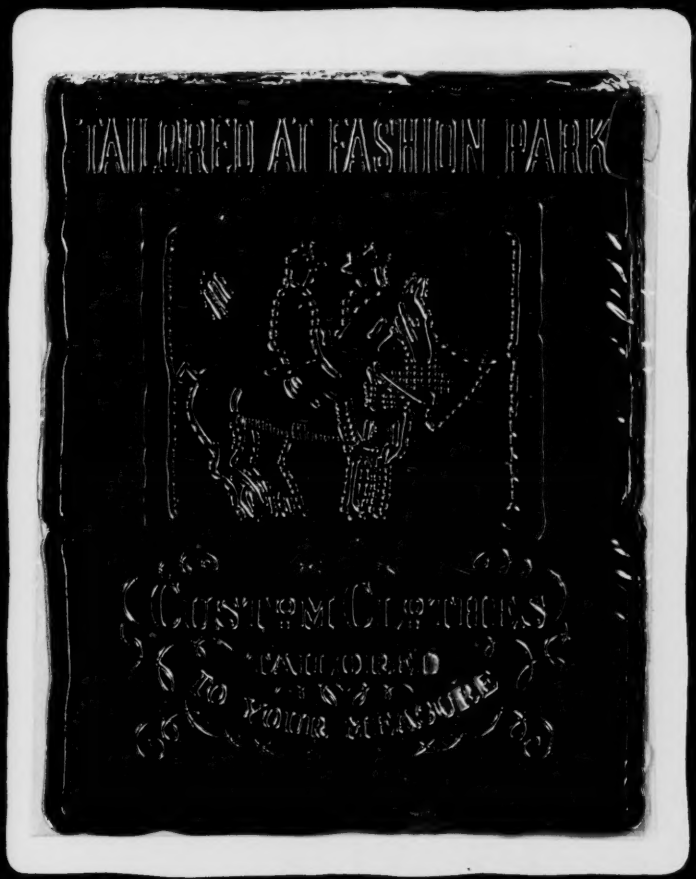
Stock Labels

As implied by the name these labels are carried in stock, by the label manufacturers, who print or lithograph them in large "combination sheet" runs, and make them available and useful to manufacturers, jobbers and retailers in such quantities as they need.

In the case of a manufacturer, for example, just starting in the drug specialty business, with a number of different sized and shaped packages, some in glass bottles,

Shipping labels, in their two main groupings: those used for addressing, handling and delivery, at top; those containing supplementary shipping instructions, shown at the bottom

"everyday work"



samples taken from regular press runs

F. E. MASON & SONS

Embossed Seals and Labels and Printed Labels

115-125 FRANKLIN ST.

BATAVIA, N. Y.





Command FAVORABLE ATTENTION with an EMBOSSED FOIL LABEL . . . .

Discover for yourself how a cleverly designed Perfect-O-Cut embossed foil label CREATES sales!

The TABLET & TICKET CO.

1019 WEST ADAMS STREET, CHICAGO, ILLINOIS

SAN FRANCISCO PLANT
407 SANSOME STREET
SAN FRANCISCO

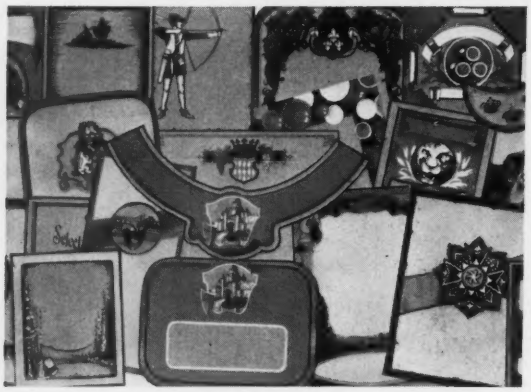
SINCE 1870

NEW YORK PLANT
115 EAST 23rd STREET
NEW YORK

Send FOR INTERESTING LABEL ASSORTMENT, PERTAINING TO YOUR PARTICULAR BUSINESS

XUM





Stock labels, indicating range of design treatments available; those shown at top are used for non-alcoholic beverages, while those below are used for wine and liquor packages

others in opal jars, still others in fibre and tin containers, if he secures his own private labels it will incur a reasonably large investment in preparatory costs as well as involving certain unavoidable delays. Yet through the use of stock labels, these can be readily imprinted, at minimum expense, and in the shortest possible time the manufacturer can begin operations. It will thus be apparent that the outstanding reason for stock labels is the *economies* which can be effected through their use.

The six major advantages of stock labels are:

1. Economy in original cost and time consumed getting them.
2. May be bought in small quantities without paying an undue premium.
3. Save the investment otherwise made necessary in original dies, art work and engravings.
4. Multi-color effects securable at lower costs than single color printing.
5. Wide range and selection of sizes, shapes, colors and designs.
6. May be made to look like a private label by use of inexpensive line cut for imprinting trade and firm name which closely matches the label design that is followed.

While there are many occasions for using stock labels they will all more or less fall within the following ten applications:

1. In introducing a new product, in a highly competitive field, which will neither stand the expense nor time involved developing an individual private label for the purpose.
2. To meet the demand of certain customers who insist that products made for them carry their own trade mark and name on the packages.
3. To avoid confusion by selling one brand to two or more jobbers or retailers who are direct competitors in the same city, town or neighborhood.
4. Where some change in formula or recipe may be made rather quickly, or laws relating to text on labels are unstable and subject to change with little or no advance warning, such as legal legends on wine and liquor packages.
5. To avoid costly delays in getting product on the market.
6. To market a surplus stock at a low price for quick disposal without affecting regular merchandise.
7. For second grade or sub-standard merchandise which, while representing good value, is not of a quality permitting it to be sold under the maker's own regular trade name.
8. To allow distributors to buy products in bulk and package them in consumer units under their own trade brands or names.
9. To test the receptivity of a market for a new product, or a new size of an established product, without disclosing the identity of the manufacturer or disturbing his present products and distributive outlets.
10. For special occasion or holiday packaging where the supply is limited and the offer holds good for a brief period.

While stock labels owe their existence to the economies they effect, it must not be implied that they are cheap, tawdry and totally unsuited for high quality products. As has already been shown, there are many cases wherein stock labels are entirely suitable. Although it is the ill fortune of every label manufacturer to have some obsolete designs, reminiscent of earlier and more decoratively ornate days, these same manufacturers have kept abreast of the times and have thoroughly modern stock label designs, available in all the new papers and art treatments. Among the one hundred million stock labels which one manufacturer keeps on hand at all times it is certainly possible to find something suitable for the product, be it a food, drug, cosmetic, hardware or electrical appliance. All label manufacturers maintain their own creative staffs who are available to advise on the use of stock labels, assist in selection of types to harmonize and, if desired, to develop special private label designs.

Acknowledgment is made to the following manufacturers who collaborated in the preparation of this section: Cameo Die Cutting & Engraving Company; Ever Ready Label Corporation; Palm, Fechteler & Company and Lehmann Printing & Lithographing Company.

FOR YOUR CONVENIENCE

This insert has been given an extension hinge so that you may examine every page conveniently.

P. S. You'll find such examination well worth your while . . . for every page contains dozens of money and time saving ideas.

DO THIS



XUM

FOR YOUR GREATER CONVENIENCE

Ever Ready maintains a large and experienced designing service department . . . ready and willing to aid you in planning package and shipping labels of every description. Call upon label headquarters without obligation.

EVER READY LABEL CORP.
141 E. 25th ST., NEW YORK CITY
In New York, Phone MUrray Hill 4-4300


Ever Ready
LABELS
GO PLACES and DO THINGS
IN NEW YORK
PHONE
MURRAY HILL
4-4300
EVER READY LABEL CORP
141-155 EAST 25th ST., NEW YORK
MOTION PICTURE FILM
AGILE
WITH CARE
ALL-PURPOS

XUM

Ever Ready Solves Your Label Problems



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EVER READY LABEL CORPORATION, N.Y.C.

Ever Ready LABEL Corporation
141-155 EAST 25TH ST. NEW YORK, N.Y.

This Hand-Y-Book is dedicated to label users everywhere.

I join with all Ever Ready Folks in soliciting your interest in our latest "ideas" presentation.

Your money serves us only to the extent our product serves you.

Ever Ready reaffirms its guarantee--a transaction is never complete until you are entirely satisfied.

Ever ready yours

President

Service
The Watchword at Ever Ready

POSSESSION of this Handy-Book gives you the key to the solution of your label problem.

It gives you an insight into the vast number of services Ever Ready offers. It will prove definitely that Ever Ready is mentally and mechanically equipped to serve and satisfy. We emphasize our facilities which embrace the manufacturing of labels in rolls as well as flat (cut single or padded)—gummed or ungummed—square cut or die cut—printed or embossed, in one color or many.

Special and unusual problems requiring printing in rolls, regardless of kind of material used, is a specialty with us. If you need such work done in a hurry—at a price—put your problem up to us, and we'll solve it for you.

●

REFERENCES

Ever Ready's responsibility is attested to by the following:

LAWYERS COUNTY TRUST CO.
DUN AND BRADSTREET INC.

We are members of the following organizations:

ADVERTISING CLUB OF NEW YORK
AMERICAN MANAGEMENT ASSOCIATION
DIRECT MAIL ADVERTISING ASSOCIATION
MERCHANTS ASSOCIATION OF NEW YORK
NATIONAL ASSOCIATION OF MANUFACTURERS
NATIONAL CREDIT MEN'S ASSOCIATION
ROTARY CLUB OF NEW YORK
SALES EXECUTIVES CLUB OF NEW YORK

IMPORTANT PLEASE

Prices in this book are subject to change without notice. It should interest you to know that Ever Ready has maintained its price structure for the past ten years, and shall strive to maintain these prices as long as they remain consistent with costs and conditions.

XUM

ACTION-GETTERS



Main 1234
Your Orders for Lumber You Receive Prompt Attention and Quick Deliveries

TELEPHONE Our Representative to Call MAIN 1234

LARGE AND SMALL BUSINESS FIRMS USE STICKERS TO ENCOURAGE CUSTOMERS TO TELEPHONE ORDERS AND INQUIRIES. THE RESULTS ARE MORE BUSINESS AT LOWERED SALES COST

Used by telephone companies



Used by Western Union Telegraph Co.

Used to promote N. R. A.



Used by Railway Express Agency



Used by R. C. A. Communications





Ever Ready LABELS Go PLACES Do THINGS

Labels ARE "MINIATURE BILLBOARDS"



• We know of no business that cannot profitably use ad stickers. The applications of these labels are limitless! Examine the samples illustrated and you'll quickly get an idea for applying them to **your own business.** Thousands of printers and stationers submit their own and customers problems to us for solution—convincing proof of our five point program.

16 for a penny—USE THEM FREELY



Four—ECONOMY
Ever Ready labels—most economical message carriers—they stick to the job—serve and satisfy! Easy and quick to handle too!



Five—GUARANTEE
EverReady backs every order until money serves us only to the extent that our labels serve you.

IMPORTANT
★ THE DAY SETS THAT YOU ORDERED ARE ENCLOSED IN THIS SHIPM
No. 443

C. O. D.
FROM
B. V. D. SALES, Inc.
31 WEST 32nd STREET
NEW YORK
No. 444

PAST DUE!
A remittance by return mail will be greatly appreciated, THANKS
No. 445

IF IT'S ELECTRICAL
Call 960
MILLER & MORGAN
SALISBURY — MARYLA
No. 446

POISON
ANTIDOTES:—
EXTERNAL—Flood with water, then wash with vinegar.
INTERNAL—Give vinegar, or juice of lemon, grapefruit or orange, copiously. Follow with olive oil.
EYES—Wash out with 5% boric-acid solu-
physician.
No. 447

NOTICE
Government Order
Shipment must be effected at once.
DO NOT DELAY
Your co-operation will be appreciated.
Edwin Smithson
No. 448

COlumbus 5-9442
James O'Toole
N. Y. STATE
RETAIL WINE & LIQUOR STORE
License No. L. 1278
993 EIGHTH AVE. at 58th St.
NEW YORK CITY
No. 449

BAM BAM
DANTE GARAG
and
Filling Static
Day and Night Ser
EXPERTS TO SE
406 E. Second A
EL PASO, TEX.
No. 450

Complete Travel Information
AMERICAN-EXPRESS
TRAVEL DEPARTMENT
1013 Huron Rd. • Cleveland
No. 451

MUrray Hill 4-9060
FURNITURE INDUSTRIES OF AMERICA
Furniture Distributors
5 FOURTH AVE.
AT 29TH STREET
NEW YORK CITY
No. 452

Digest PAYS THE POSTAGE
LL BOOKS. Ask for bargain list
st garden books and horticultural
ndard works — books published
fore July, 1934. Address—
GARDEN DIGES
Great Oak Lane, Pleasantville
No. 453

CONTENTS: Merchandise
POSTMASTER: This parcel may be opened for postal inspection if necessary.
Return Postage Guaranteed
LORD & TAYLOR
FIFTH AVE. & 38TH ST. NEW YORK
No. 454

00 ELS per thousand



Ever Ready LABELS
"Go Places and Do Things"

FREE

Ever Ready Label Holder

• With your order we supply this duco finished label holder. Not only is this holder efficient in operation—it is attractive in appearance—suitable for office use. The holder (value 50c) is offered to you without charge—so that you may better enjoy the absolute convenience of roll labels.

• BUTCHER—BAKER—CANDLESTICK MAKER . . . and **you** can use these labels to advertise your business—to speed up office routine—to mark merchandise—as business cards **that "stick"** plus hundreds of other uses. Printed for you in red or blue—any copy you want—gummed—in perforated rolls—easily detached—size 2" x 1¼"—60c per thousand in 5000 lots or $3.00 complete, including holder. In two colors (red and blue) $3.75 for 5000.

1/2 minute

YOU FIGURE IT YOURSELF THE *Ever Ready* WAY!

To Find Your Label Price

Place BOTTOM LEFT corner of your label on the tip of red arrow. The upper right corner of label strikes a square in which you will find the price of your label.*

**Ever Ready offers this simple price finding method for rapid and consistent pricing of labels on white gummed and ungummed paper, printed in red, blue, black, green or brown ink, square or rectangular in shape, perforated in rolls or cut single.

**For prices on two color printing or colored paper, add 25% to the prices indicated in the panel.

For prices on die cut labels, or labels printed on gold or silver paper, send specifications for special quotations.

*Prices subject to Federal, State and Municipal taxes.

**A few exceptions are clarified on the following pages.

	1	2	3	4	5	6
6						Write for special Quotation
5					Price Per Thousand 5000 2.70 10000 2.40 25000 2.25	Price Per Thousand 5000 2.70 10000 2.40 25000 2.25
4				Price Per Thousand 5000 2.55 10000 2.10 25000 1.95	Price Per Thousand 5000 2.40 10000 2.00 25000 1.85	Price Per Thousand 5000 2.55 10000 2.10 25000 1.95
3			Price Per Thousand 5000 1.80 10000 1.60 25000 1.45	Price Per Thousand 5000 2.00 10000 1.80 25000 1.60	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70	Price Per Thousand 5000 2.40 10000 2.00 25000 1.85	Price Per Thousand 5000 2.55 10000 2.10 25000 1.95
2		Price Per Thousand 5000 1.35 10000 1.20 25000 1.05	Price Per Thousand 5000 1.50 10000 1.30 25000 1.15	Price Per Thousand 5000 1.70 10000 1.50 25000 1.35	Price Per Thousand 5000 1.80 10000 1.60 25000 1.45	Price Per Thousand 5000 1.90 10000 1.70 25000 1.50	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70
1	Price Per Thousand 5000 .70 10000 .65 25000 .55	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.35 10000 1.20 25000 1.05	Price Per Thousand 5000 1.50 10000 1.30 25000 1.15	Price Per Thousand 5000 1.70 10000 1.50 25000 1.35	Price Per Thousand 5000 1.80 10000 1.60 25000 1.45
	Price Per Thousand 5000 .60 10000 .55 25000 .45	Price Per Thousand 5000 .70 10000 .65 25000 .55	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90
	Price Per Thousand 5000 .60 10000 .55 25000 .45	Price Per Thousand 5000 .70 10000 .65 25000 .55	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90
	1	2	3	4	5	6	



Square Inch System

By multiplying the length by the width of any label you arrive at the square inch area. This is the basis for our method of pricing labels. The scale above SIMPLIFIES a simple method.

For example, a label 3" wide and 5" long measures 15 square inches (3" x 5"). When placed in the bottom left corner of the chart it strikes a square showing that this label in quantities of 5000 costs $1.90 per 1000; 10,000—$1.70 and 25,000—$1.50.

We have on pages 4 to 19 of this catalog attempted to show the types of labels most intimate to your own business. Consider every label as an idea that, with changes, may suggest some practical application to your own needs.


1
2
Per Thousand
5,000 - 6[illegible]
10,000 - 55[illegible]
25,000 - 45[illegible]
Ever Ready Holder FREE with your order
• PAPER—white gummed • INK—choice of red or blue • Perforated in rolls (cut single if preferred) • Second color—add 25% • Colored paper—add 25% (25,000 or more; in smaller quantities request quotation) • For available colors see page 47 • For ungummed papers or larger quantities, write for special quotation.
Ever Ready LABELS FOR IDENTIFICATION ADVERTISING
—including marking merchandise—to indicate price and contents—for inter-office notations—for factory inspection—for salesmen's stickers, and other uses suggested by illustrated labels.
Where manufacturing economies are important, large users of small labels should submit details of requirements for special consideration, i.e., quantities of 25,000 or over.
FINEST QUALITY
RYE BREAD
No. 455 1 x 1 in.
ALL OF OUR EMPLOYEES and EXECUTIVES ARE BONDED FOR YOUR SECURITY
No. 456 1 x 1 in.
THE L & L MEN'S SHOP GAINESVILLE, FLA. 75¢
No. 457—¾ x 1 in.
FROM H. BUNCHER PAINTS—HARDWARE MILLBURN, N. J.
No. 458—¾ x 1¼ in.
SAMPLE of
No.
Price $ per Gr.
Columbia Plush & Puff Co.
221 McKibbon St. Brooklyn
463 W. Erie St. Chicago
145 Fremont St. San Francisco
No. 483 1¼ x 1¼ in.
DEALER'S NAME AND ADDRESS HERE
WE RECOMMEND Cunningham RADIO TUBES
Date Sold
Date Tested
Satisfactory
Unsatisfactory
Doubtful
No. 484 1½ x 1¼ in.
AMSCO PRODUCTS
No. 459 ½ x 1¼ in.
PALISADE BAKERY
J. KUPIEC & WAKI, PROP.
242 Palisade Avenue
GARFIELD, N. J.
Phone: PAssaic 2-8756
No. 460 1 x 1 in.
MACY'S FILLED IN STOCK ROOM
No. 462 ¾ x 1 in.
NRA
REGISTRATION 19—3
ISSUED BY PICTURE MOULDING AND PICTURE FRAME CODE AUTHORITY
No. 461 1 x 1 in.
FOR SALE BY SOUTHERN BEAUTY SUPPLY CO.
448 Granby St. Norfolk, Va.
PHONE 41765
No. 466 1 x 1 in.
Regular Price $1.00
SPECIAL 75¢
No. 463 1½ x 1¼ in.
CHARLES SCRIBNER'S SONS
Educational Department
No. 465 1 x 1 in.
NEW YORK OFFICE
TELEPHONE
WISCONSIN 7-1288
No. 464 ½ x 1¼ in.
Complies with A. D. A. Specification No. 6
Batch No.
No. 469 1 x 1 in.
MADE IN U. S. A.
No. 468—½ x 1½ in.
MONOCRAFT
Style
Price
24K SOLDON SILVER FINISH
No. 467 ¾ x 1 in.
COMPLIMENTARY
must not be sold
No. 470
FOR SALE BY GIMBEL'S PHILADELPHIA NEW YORK
No. 471 ¾ x ¾ in.
Pittsburgh China Co.
302 Market Street
PRICE
NO.
COST
No. 472 ¾ x 1 in.
NATIONAL OLD AGE PEOPLE'S PENSION and UNEMPLOYED ASSOCIATION
No. 473 ¾ x ¾ in.
MADE IN U. S. A.
No. 474 ½ x ½ in.
WILLIAM KLAHR
Plate GLASS Window
X No. 475
22 So. Lexington Ave.
White Plains, N. Y.
Phone W. P. 5787
1 x 1 in.
EMORY UNIVERSITY
BIOLOGY DEPARTMENT
No. 477—1 x 1 in.
GUARANTEED
ALL WOOL
No. 476—½ x 1¾ in.
Tested and Approved 4520 by Bureau of Foods, Sanitation and Health GOOD HOUSEKEEPING MAGAZINE
No. 478—¾ x 1¼ in.
15c DEPOSIT ON THIS KEYSTONE CONTAINER
No. 479 1 x 1 in.
The IDEAL To Duplicate Order No. 55 MADE BY THE J. L. HANSON CO. CHICAGO, ILL.
No. 480—¾ x 1 in.
INTERCHANGEABLE
—FOR—
STANDARD TYPEWRITERS
No. 481—½ x 2 in.
DAMAGED BEFORE BEING PACKED SUBURBAN STORAGE
No. 482—1 x 1 in.
VIA AIR MAIL
No. 488 ¾ x 2 in.
W. F. SMITH
NEWARK BUICK CORP.
198 CENTRAL AVENUE
MAr. 2-0840 Newark, N. J.
REPRESENTING BUICK PONTIAC
No. 489 1 x 1½ in.
RADIA-LITE
Lamp Pull
SHINES IN THE DARK
No. 490—1 x 1½ in.
CHEMICAL BANK & TRUST CO.
★ 320 Broadway
No. 491
Gross Dozen Pieces
Style
Their No.
No. 492—1 x 1¾ in.
J. E. DoubleRY VOGEL MUSIC CO., INC.
No. 493 1 x 1¼ in.
HYGEIA PROFESSIONAL PHARMACY, INC.
M. Berlind APOTHECARY
No. 494—½ x 3 in.
MAILED — BY — REQUEST
Please Deliver to person addressed IMMEDIATELY upon receipt from POSTMASTER
No. 496—2 x 1 in.
WAGGONER REFINING CO., Inc.
ELECTRA — TEXAS
DDD MOTOR OILS
Oil Changed
Date Greased
No. 495—1 x 2 in.
Distilled by
COLONIAL DISTILLING and DISTRIBUTING CORPORATION
390 Greenwich Street New York, N. Y.
N. Y. State ABC Board DLB-6
No. 497—1 x 2 in.
glamour nail polish
the hanova paris
Chicken or Cheese Ravioli
No. 499—½ x 4 in.
"NO ONE OFFERS WHAT EVER READY OFFERS"

Ever Ready Labels

3
SQUARE INCHES
(ON THIS PAGE)

PRICES
Per Thousand
5,000 - **70c**
10,000 - **65c**
25,000 - **55c**

New York City
CHRISTIAN ENDEAVOR UNION
HEADQUARTERS
SECOND PRESBYTERIAN CHURCH
3 W. 95th St.
3rd Thursday Each Month

No. 500—1½ x 2 in.

DO NOT SEND TO FILE
REFER TO

No. 501—2 x 1½ in.



No. 502—1⅛ x 2½ in.

Ever Ready Holder
• PAPER—white gummed. • INK—choice of red, blue or black. • Perforated in rolls or cut single if preferred. • Second color —add 25%.

HOME MADE
Spanish
RELISH
★
OLD LOG BRAND
★
Schaefer & Aldridge
Indianapolis
NET WEIGHT 7 OZS.

No. 503—2¼ x 1¼ in.

ORIGINAL INVOICE
INSIDE THIS PACKAGE

No. 504—1 x 3 in.

THIS INVOICE
SUBJECT TO
2% DISCOUNT
10th OF MONTH
FOLLOWING DATE OF
INVOICE OR
NET 15th OF SECOND
MONTH FOLLOWING
DATE OF INVOICE

No. 505—1¾ x 1½ in.

French
Hand and Skin
Balm

Restores moisture to dry skin, makes chapped, rough, red skin smooth, soft and white.

CHEMICAL SPECIALTIES CO.
New York, N. Y.

No. 511—2⅜ x 1¼ in.

Purchased by
Greig & Greig
LL 32
IMPORTERS of RARE WINES & SPIRITS
342 Madison Avenue
New York City

No. 506—1 x 2¾ in.

LOTIA VELVA
Soothes chapped, rough and red skin and hands — keeping them smooth and white. Excellent, to relieve and prevent Sun or Wind Burn—after household work —before and after shaving.
Apply very sparingly massaging well into skin until dry—not sticky.

No. 507—2 x 1⅜ in.

EASTERN AGENTS
MAYNZ & CO.
1775 BROADWAY NEW YORK CITY
TELEPHONE: CIRCLE 7-6825

No. 508—1 x 2½ in.

O. K.
FEEBLE
REPLACE FOR GOOD RECEPTION
MODERN RADIO SERVICE
815 WEST 181st STREET
WAshington Heights 7-4228
Date

No. 510
1½ x 1½ in.

FOR ALL TEXTURES OF HAIR
Fill with Liquid No. 2 even with the top edge of sticker. Then add Liquid No. 1 and shake well. This quantity when mixed is sufficient for 34 to 36 curls.
Milkee Process

No. 512—1 x 2½ in.

NOTE

These labels cover a wide range of general utility purposes. Note No. 522 offering a manufacturing or identification system. Ever Ready's presses can number and perforate to make the label flexible for the most difficult requirements. These, of course, are subject to special quotations. No. 514 is used by a coal vendor indicating that no business or profession exists that cannot profitably use Ever Ready labels.

FIFTH
PACKAGING EXPOSITION
PALMER HOUSE
CHICAGO
MARCH 5-8 1935

No. 509—1¾ x 1½ in.

WE ARE
CO-OPERATING
with
BETTER • HOUSING • PROGRAM
REPAIR-ALTER-IMPROVE

No. 513—2 x 1½ in.

RED DEVIL
COAL
EXCLUSIVE DISTRIBUTOR IN WESTCHESTER COUNTY
WESTCHESTER
COAL
CORPORATION
PAULDING ST., WHITE PLAINS
Tel. WHITE PLAINS 7000

No. 514—2 x 1½ in.

POSTER STAMPS

Labels of these sizes are particularly adaptable for use as poster stamps—so popular in present day merchandising. We will gladly submit ideas for the use of poster stamps as sales stimulators in your business.

Refer to Pages 36-37

EVER READY ROLL LABEL

Ever Ready Labels

4
SQUARE INCHES
(ON THIS PAGE)

PRICES
Per Thousand
5,000 - **90c**
10,000 - **80c**
25,000 - **70c**

FREE with your order
Colored paper—add 25% (10,000 or more). For available colors see page 47. • For larger quantities, or unsummed paper, write for quotation.

Courage that Propels
banishes, Fear, Worry, Gloom, Despair; gives moral incentive and purpose. "15 reassuring messages of God's power and comradeship in times of crisis," commends Christian Century.
By G. Ray Jordan $1
A COKESBURY GOOD BOOK
No. 515—2½ x 1½ in.

Prices on this order are subject to increase due to any Federal or State laws taxing raw or processed materials or governing the working hours or compensation of labor.

NEUMANN'S KAMPUS KOFFEE
C. J. NEUMANN COFFEE CO., Inc.
833 ST. JOHN'S PLACE BROOKLYN, N. Y.
Famous Coffees & Teas
PHONE: PRes 4700
No. 516—1¼ x 3 in.

No. 517
1 x 3½ in.

INTERNATIONAL SHORT WAVE RADIO CLUB
No. 518—2 x 1¾ in.

CELEBRATE
ARMISTICE DAY
(November 11th)
WITH THE
AMERICAN LEGION
IN BETHLEHEM
MONSTER PARAD
and CELEBRATIO
No. 519—2 x 2 in.

HOLIDAY SPECIAL
BIRDSEYE FROSTED FRESH RASPBERRIES
11c per pint
Use like Fresh Raspberries
HENRY KELL
413 WEST 1
SONS, Inc.
NEW YORK
No. 520
2 x 2 in.

CLINIC OF THE
Cornell University Medical College
1ST AVE. & 27TH ST. N. Y.
teaspoonful in
water
after meals. times a day
SHAK
No. 521
1¾ x 2¼ in.

WERSTED MOTOR CO.
A Loan Battery Was Installed To-day
Rental Charge per day 25c
Minimum Charge 50c
YOUR BATTERY WILL BE READY IN TWO OR THREE DAYS
PHONE WINNETKA 165
No. 524—1½ x 2½ in.

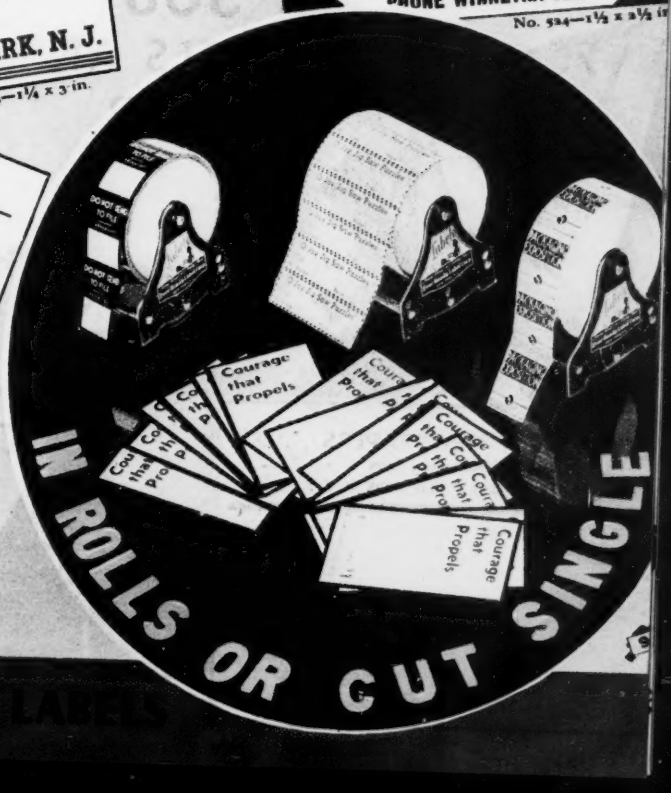
No. A 09988
No. A 09988
No. A 09988
LICENSED UNDER LEKTOPHONE PATENTS—1,271,527 1,271,529 1,271,528
OTHER PATENTS PENDING
No. 522—2½ x 1½ in.

RETURN POSTAGE GUARANTEED
CONTENTS: FOURTH CLASS MAIL.
POSTMASTER: This parcel may be opened for postal inspection if necessary.
COTEX CORP. ★ NEWARK, N. J.
No. 523—1¼ x 3 in.

Sample of
- Batch or Mix No.
- Package No.
- Weight
- Shipped

GENERAL ANILINE WORKS, INC.
Union County Grasselli, N. J.
No. 525—2 x 2 in.

O-Joy Jig Saw Puzzles
TITLE
No. Pieces Price
No. 526—1 x 3½ in.



EASIER TO HANDLE · QUICKER TO ADDRESS



WORLD'S NOVICE TYPING CHAMPION



ROYAL TYPEWRITER COMPANY, INC.
2 PARK AVENUE, NEW YORK CITY

The Ever Ready Label Corporation,
New York, N. Y.

Gentlemen:

In testing your label feeding device for a period of one hour against one hour's addressing of labels in the usual individual insertion manner, I found that, with this device I addressed 308 labels in the one hour and 240 feeding them individually.

This is a saving of time of 22% and I feel that, in view of the fact that I had never used this device before, a little practice with it would enable me to make this time-saving percentage even greater.

Yours very truly,
A.F. Neuenhaus
A.F.Neuenhaus,
Special School Demonstrator.

From
HEARST NEWSPAPERS
General Advertising Dept.
959 EIGHTH AVE. NEW YORK, N. Y.

No. 532—2 x 3 in.

FREE
Ever Ready Roll Label
Holder with first order.

10

EVER READY LABELS "Go Places—Do Things"

6
Square Inches

PAPER—white gummed or ungummed. • INK—choice of red, blue, black, green or brown. • Perforated in rolls or cut single if preferred. • Specify position of perforation if intended for typewriter use. • Second color—add 25%. • Colored paper—add 25%. • For available colors see page 47.

NAPHTHA
BEWARE OF
MMABLE VAPORS
UTION: Do not open this
bottle in any room in which
there is fire or any open flame
ARITAN CHEMICAL CO.
DISTRIBUTORS

No. 533
2 x 3 in.

100,000
Labels run through Addressing Machine for Schenley's Emergency Mailing.



• FROM •
Schenley Distributors, Inc.
20 WEST 40th STREET
NEW YORK CITY
Wholesaler's Liquor License No. 119
To

No. 534
2 x 3 in.

INITIAL AND FORWARD
Assistant Vice President
General Copy Manager
General Information Manager
Office Manager
Supv. of Advertising Accounts
File
See pages
Return to Advertising and General Information Department

No. 535—2 x 3 in.



AIR TICKETS
— AND —
RESERVATIONS
— Call —
AIRLINES TICKET OFFICE
ROOSEVELT HOTEL (Arcade) N.Y.C.
VAnderbilt 3-0490

No. 536—1½ x 3½ in.

IMPORTANT
Washing Directions
for
drydee
"FIBLESS BABY-PAD HOLDER"
and
SUNdee

Make rich, luke-warm LUX suds. Never soak, unless garment is unusually soiled, then only for a short time. Squeeze suds through and through garment. Do not rub. Rinse in three luke-warm waters. Gently squeeze out water. Roll in turkish towel—knead out moisture—unroll at once—dry in shade. Do not roll up or wring. DUST WATERPROOF POCKET with TALCUM POWDER. Press with warm—NOT HOT—iron.

No. 539
3¼ x 1¾ in.

Special for
Inspect
No Starch in Shirts
No Starch in Anything
Collars Soft
Collars Stiff
Heavy Starch in C. A. Shirts
Light Starch in Shirts
Iron Bath Towels
Dry Bath Towels
Box

No. 537
2 x 3 in.

IMPERIAL
Washable
WALLPAPER
fast to light
MFD. UNDER U. S. PAT. NO. 1,950,279
GLENCRAFT

No. 538—2½ x 2¼ in.

Chaperone Your Cigarettes



THEY SHOULDN'T GO OUT ALONE!

No. 543—1¾ x 3 in.

WESTCHESTER PUBLICITY ★
31 Hemingway Ave. New Rochelle, N. Y.
★
RETURN POSTAGE GUARANTEED

No. 540—1¼ x 4 in.

From THE JUNKET FOLKS
CHR. HANSEN'S LABORATORY, INC. LITTLE FALLS, N.Y.

No. 542—1½ x 3½ in.

That's Cooperation!
The VOGUE Merchandising Department has planned cooperative events for many leading stores ◆ ◆ ◆ ◆ ◆ Let us submit a program to you

No. 541—1' x 5 in.

Ever Ready Labels

8 SQUARE INCHES

PRICES
Per Thousand
5,000 — $1.35
10,000 — $1.20
25,000 —

Ever Ready Holder
• PAPER—white gummed or ungummed.
• INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut

PROPERTY OF
Meigs County Relief Commission
NOT TO BE *sold* **OR** *bartered*
Unauthorized Division of Use of this Property Punishable under the Law.

No. 544—2 x 4 in.

Samples from
Burch-Stratton Paper Co.
111 South Church Street Schenectady, N. Y.

Grade _____

Color _____

Finish _____

Size and Weight _____

No. 545—3 x 2½ in.

Borden's
99 HUDSON ST., NEW YORK, N. Y.
Postmaster: RETURN POSTAGE GUARANTEED

No. 546—2¾ x 2¾ in.

CONTENTS MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary
If addressee has removed notify sender on FORM 3547 Postage for which is GUARANTEED
FRAGILE LIQUID
FROM: WILLIAM R. WARNER & CO
MANUFACTURING PHARMACEU
113 WEST 18TH STREET, NEW YORK
RETURN POSTAGE GUARAN
To
Note—Reference Form 3547—keeps your mailing list up to date. Post Office advises you of changes at a cost of 1c each.

No. 547—2 x 4 in.

POSTMASTER — Contents: Merchandise (4th Class). May be opened for postal Inspection if necessary.
FROM
LANE COMPANY
108 W. Madison Street
CHICAGO
This package is valuable. If undeliverable please return after 5 days. Postage for return will be paid on delivery to sender.
To _____

FRAGILE

No. 548—3 x 2½ in.

100 Capsules
DISULPHAMIN
(REGISTERED U. S. TRADE MARK)
7½ GRAINS
Sulpho - Salicylo - Formol - Nucleino - Sodium Dimethylamino - Antipyrin - Bicamphorated.
- Empty contents of capsules in water as directed by Physician.
- DO NOT SWALLOW CAPSULE.
- Dispensed only on Physician's Prescription.

AMERICAN BIO-CHEMICAL COMPANY, Inc.
79 Madison Avenue New York, N. Y.

No. 549—3 x 2½ in.

RETURN IN SIX DAYS TO
Rings O' Romance
REG. U. S. PAT. OFF.
B. & E. J. GROSS CO., Inc., 64 W. 48th ST., NEW YORK, N. Y.
Registered Number
TO _____

No. 550—2½ x 3 in.

THE POST OFFICE has definite rules and regulations... Not to know them may cause needless expense.

EVER READY has secured for you an official **O. K.** on 14 Parcel Post Label Forms.

Please turn to page **44**

No. 551—3 x 4 in.

The Telephone Company measures its charge according to the distance you speak. Ever Ready's yardstick for labels is the size of the paper.

Ever Ready* Roll Label *holder* FREE *with order

The Telephone Company is not interested in what you say over that distance—nor are we interested in what you print as your copy.

Ever Ready Labels

10 SQUARE INCHES

FREE with your order
single if preferred. • Second color—add 25%. • Colored paper—add 25%. For available colors see page 47.

YOU RECENTLY INQUIRED ON THIS ACCOUNT—THIS AUTOMATIC RECHECK OF YOUR EXPERIENCE IS TO PERMIT OUR ACTIVE UNDERSTANDING OF ITS PAY CONDUCT—PLEASE FILL IN AND RETURN PROMPTLY.

HIGH CREDIT RECENT	AMOUNT OWING	AMOUNT PAST DUE	TERMS	MANNER OF PAYMENT			DATE OF LAST SALE	ACCOUNT DECLINED	ACCOUNT GUARANTEED
				DISCT.	PROMPT	SLOWNESS			

REMARKS

No. 552—1½ x 6 in.

JM PRODUCT

Johns-Manville
22 East 40th Street, New York, N. Y.

Order No.
Req. No.
FORM X-SF.C.

No. 553—2¼ x 4 in.

FULLER RADIATOR BRUSH

Genuine Fuller Products carry this Red Tip Tag and trade mark
Fuller
Look for both!

The Fuller Radiator Brush, like all Fuller personal and household products, can be bought only from the Fuller Man who brings them right to your home. To have him call, write or phone nearest branch office or
THE FULLER BRUSH COMPANY
HARTFORD, CONN.

No. 554—3¾ x 2¼

CONTENTS: MERCHANDISE
FOURTH CLASS MAIL.
Postmaster: This parcel may be opened for postal inspection if necessary.
RETURN POSTAGE GUARANTEED

From...
PACKER MANUFACTURING CO., INC.
101 WEST 31st STREET
NEW YORK, N. Y.
Return Postage Guaranteed

No. 555—2 x 5 in.

from Prudence
DELAWARE TRUST BLDG., WILMINGTON, DEL.
No. 557—2½ x 3½ in.
You Sent For This

DIRECTIONS FOR REMOVING STEEL HEAD
1. Insert broad blade of screw driver under spread prongs of shank.
2. Bring both ends as nearly together as possible.
3. Use screw driver blade as lever under head and shank to pull through hole.
"A Handikit Product"

No. 560—2½ x 3¾ in.

Donnelley's Red Book
Publishers
The Classified Telephone Directories

RETURN CARRYING CHARGES GUARANTEED
The Reuben H. Donnelley Corporation
305 East 45th St.
New York, N. Y.

No. 556—3¼ x 4 in.

Mayonnaise Restitute Inc.
114 EAST 32nd STREET
NEW YORK CITY
No. 558—2½ x 4 in.

DOWD & MURRAY
REAL ESTATE AND INSURANCE
386 MADISON AVENUE
NEW YORK
MURRAY HILL 2-2910

No. 561—2 x 5 in.

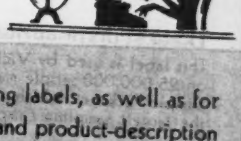
SCHOOL THRIFT 22 East 40th Street, New York, N. Y.
MERCHANDISE
No. 559—2½ x 4 in.

WALTER T. FOSTER
ART BOOKS
For

No. 562—2½ x 4 in.

The National Electrical Wholesale Code of Fair Competition provides:—
CASH DISCOUNTS
"It shall be an unfair trade practice for a member of the trade to allow a discount for cash on accounts remaining unpaid after the tenth of the calendar month following date of shipment."
All wholesalers are required to adhere to this rule under penalty.
VIKING PRODUCTS CORP.

No. 563—2 x 4½ in.



Remember—there must be a yardstick for every commodity. We have attempted to base ours on an intelligent application plus mass production.—

Roll Labels *mean* Speed, Efficiency, Economy • No waste

Well suited for shipping labels, as well as for guarantee, instruction and product-description labels—to say nothing of a variety of innumerable other uses.

Ever Ready LABELS

12 SQUARE INCHES

PRICES
Per Thousand
5,000 - $1.70
10,000 - 1.50

***Ever Ready* Holder**
• PAPER—white gummed or ungummed.
• INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut

INTERNATIONAL SILK GUILD, Inc.
250 FIFTH AVENUE • NEW YORK
No. 564—3 x 4 in.

TECHNICAL PRODUCTS COMPANY
INSA-LUTE ADHESIVES — sauer eisen CEMENTS COMPOUNDS
PITTSBURGH (15) PENNSYLVANIA
FROM
ORDER NO. REQ. NO. CONTENTS NO. PKGS.
TO
No. 565 2¾ x 4 in.

CONTENTS: MERCHANDISE, FOURTH CLASS MAIL.
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
from *Eversweet*
PRODUCTS CORPORATION
54 Fulton Street, New York, N. Y.
RETURN POSTAGE GUARANTEED
To
ORDER NO. DEPT.
No. 566—3 x 4 in.

PLEASANTVILLE PUBLIC SCHOOL
ROSELLE AVENUE SCHOOL
FREE TEXT-BOOK LIBRARY
Number Cost
Added
Do not mark or deface this book. Keep it covered. Fines will be imposed for abuse of books. Books will be denied pupils who do not take good care of them.
BOARD OF EDUCATION
No. 567—4 x 2¾ in.

RUSH VIA
TO AMERICAN BLUE PRINT CO 49 EAST 34th ST. ROOM 703
No. 571—3 x 4 in.

A. G. SPALDING & BROS
To
No. 572—2¼ x 4½ in.

CELLA BROTHERS INC
CALIFORNIA
CHABLIS
No. 575—3 x 3½ in.

U. S. POSTAGE PAID
No. 568—2 x 6 in.

LAKE WORTH, FLA.
No. 573—2½ x 4½ in.

DONAHUE & COE, Inc.
Advertising
1790 BROADWAY
New York City
To
No. 574 2¾ x 4 in.
No. 569 3¼ x 4½

CHILTON CAP-LOK DISPLAY
No. 576—2½ x 4½ in.

Don't get confused over the CURTAIN CLEANING PROBLEM!
BRIARCLIFF LAUNDRY
No. 570—4 x 3 in.

SENNET'S PORTFOLIO OF PICTURES
No. 577 3 x 3½ in.

THE LANDSMAN METHOD, Inc.
For
No. 578—2 x 5½ in.



LARGEST DISTRIBUTION OF SAMPLES
This label is used by Vick Chemical Co. on 25,000,000 sample mail-outs of Vicks Sample Packages, which we believe to be the largest sampling campaign on record!

LABELS OF THESE SIZES CARRY SQUARELY INTO THE STANDARD SHIPPING, INSTRUCTION & PRODUCT CLASSIFICATION
ALL LABELS ILLUSTRATED ON THESE PAGES AND THROUGHOUT THE BOOK ARE FOR SUGGESTIONS ONLY.

XUM

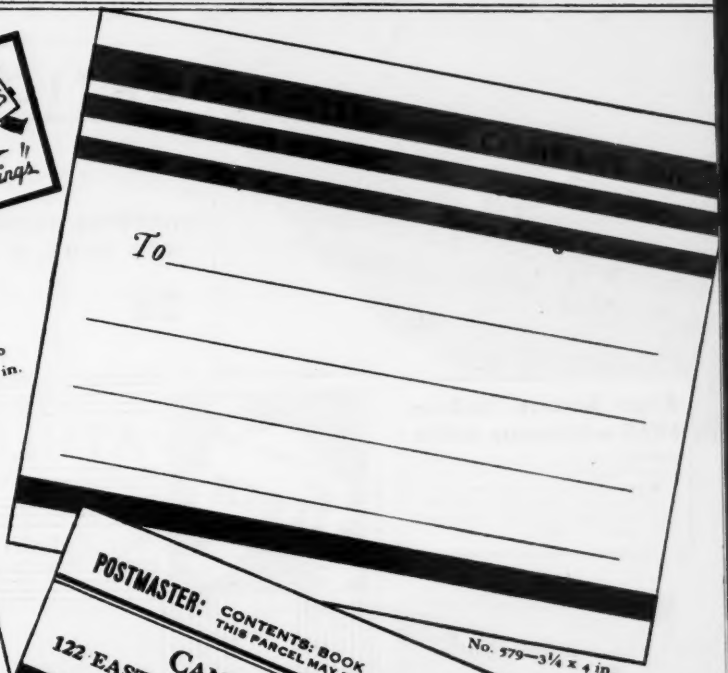
14 SQUARE INCHES

Ever Ready LABELS

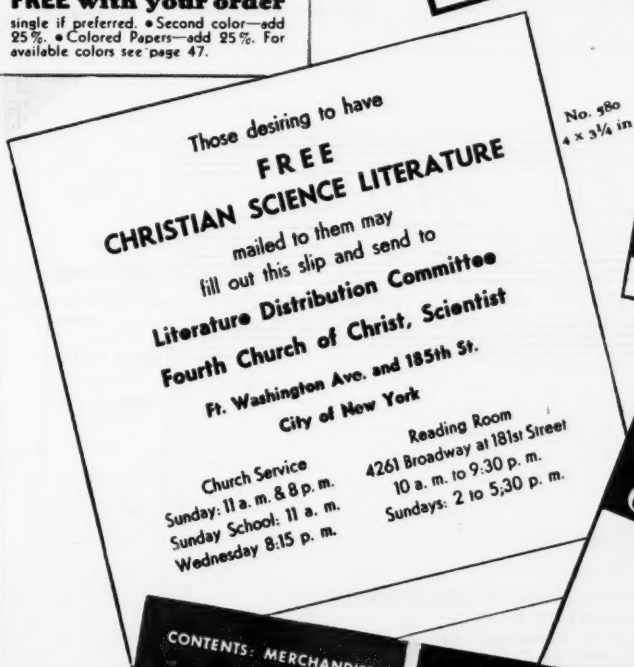
PRICES
Per Thousand
5,000 - **$1.80**
10,000 - **1.60**

FREE with your order
single if preferred. • Second color—add 25%. • Colored Papers—add 25%. For available colors see page 47.





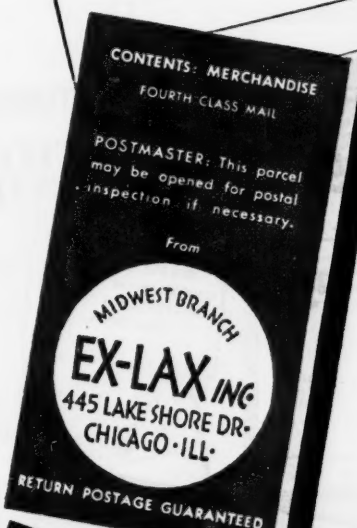
No. 579—3¼ x 4 in.

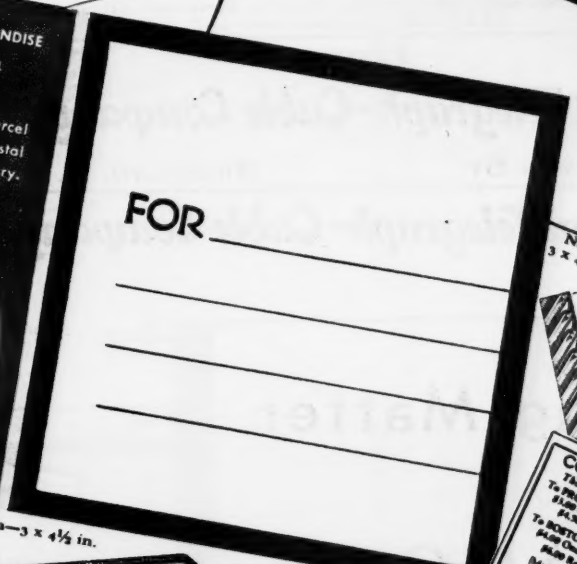


No. 580
4 x 3¼ in.

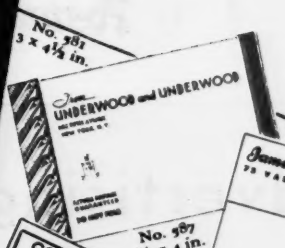








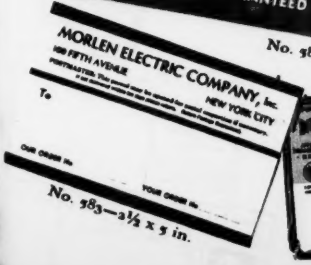
No. 582—3 x 4½ in.



No. 581
3 x 4½ in.



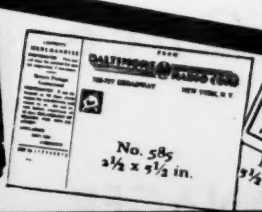
No. 587
3½ x 4 in.

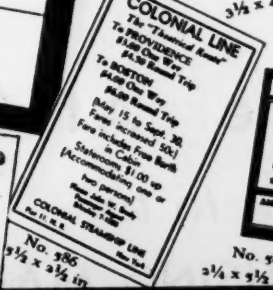


No. 583—3½ x 5 in.

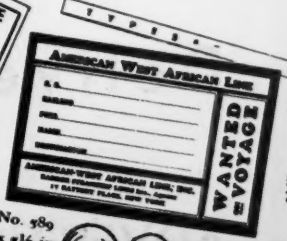


No. 584—3½ x 4 in.

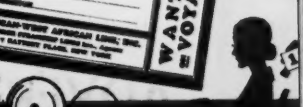




No. 586
5½ x 3¼ in.



No. 589
2¼ x 5½ in.



30,000 CUSTOMERS TESTIFY TO OUR ABILITY TO PRODUCE AND PLEASE!

Ever Ready Will Gladly

Ever Ready Labels

15
SQUARE INCHES
PRICES
Per Thousand
5,000 - $1.90
10,000 - $3.70

***Ever Ready* Holder FREE with your order**

- PAPER—white gummed or ungummed.
- INK—Choice of red, black, blue, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 25%. • Colored Papers—add 25%. • For available colors see page 47.



Suggested Sizes

for 15 Sq. inch labels:
3 x 5
2½ x 6
2½ x 5¼
2¾ x 4¾

for 16 Sq. inch labels:
4 x 4
3½ x 4½

NATIONAL ASSOCIATION of CREDIT MEN
ONE PARK AVENUE
NEW YORK, N. Y.
To
CONTENTS: MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary

from
ATHLETIC PHARMACY
INCORPORATED
921 SEVENTH AVE. at 58th ST. NEW YORK CITY
No. 590—3 x 5 in.

CIRCLE
No. 591—3 x 5 in.

CONTENTS: MERCHANDISE
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY.
POSTAGE GUARANTEED
FROM
Postal Telegraph-Cable Company
360 FURMAN ST. BROOKLYN, N. Y.
To Postal Telegraph-Cable Company
No. 592—3 x 5 in.

FOR "RED COAL" Telephone SOUTH 8-1600 Ask for
RED COAL CO.
No. 594

OCTOBER
HECHT
No. 595

PASSENGERS
IN THE INTEREST OF SAFETY PLEASE SIT BACK COMFORTABLY IN YOUR SEATS AND KEEP HANDS CLEAR OF OPEN DOORS.
Thank You!
No. 596

From FADA RADIO AND ELECTRIC CORPORATION
FADA
No. 597

From New York Steam Corporation
STEAM
No. 598

from ALAN W. BOWSER OIL EQUIPMENT AND SUPPLIES
DALLAS, TEXAS
B for
No. 599

From OVINGTON'S
No. 600

WRIGHT'S
WRIGHT'S UNDERWEAR COMPANY, Inc.
To
No. 601

Advertising Matter
●
Deliver At Once
to the
ADVERTISING MANAGER
No. 593—3 x 5 in.

Solve Your Label Problems!

Ever Ready Labels

16
SQUARE INCHES

PRICES
Per Thousand
5,000 - $2.00

***Ever Ready* Holder FREE with your order**

• PAPER—white gummed or ungummed. • INK—Choice of red, black, blue, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 25%. • Colored Papers—add 25%. • For available colors see page 47.

CONTENTS: MERCHANDISE. RETURN AND FORWARDING POSTAGE GUARANTEED
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY

WESTINGHOUSE LAMP COMPANY
BLOOMFIELD NEW JERSEY

To

No. 602—3 x 5¼ in.

Typewriter Educational Research Bureau
100 East 42nd Street - - - New York

All labels illustrated are merely suggestions. You may utilize any size or proportion to accommodate your own copy or arrangement.

• FROM •
CALIFORNIA REDWOOD ASSOCIATION
Eastern Division
101 PARK AVENUE NEW YORK, N. Y.

No. 604—3¼ x 5 in.

Return

No. 603—3½ x 4½ in.

SALES management

No. 607

BAKELITE CORPORATION

No. 606

The S. ARBON COMPANY

No. 608

Westinghouse Electric Supply Company

No. 609

PENN CENTRAL LIGHT & POWER Co

No. 610

FALSTAFF PRESS

No. 611

PETER HENDERSON & CO.

No. 614

MICHAEL OF THE WALDORF
WALDORF-ASTORIA SOUTHAMPTON L.I.
NEW YORK
KRO-KO WAVE

No. 613

From R. H. MACY & CO. BROADWAY at 34th STREET NEW YORK N. Y.
CAMERA DEPT. 5th Floor
To
THIS PACKAGE CONTAINS PROCESSED SAFETY FILM
MACY

No. 612

Do Not Open
this package until all other packages of this form have been used
Then ... show this last package to the Purchasing Department so that they may order more from the
GEO-A-DUDDY PRINTING COMPANY

No. 615

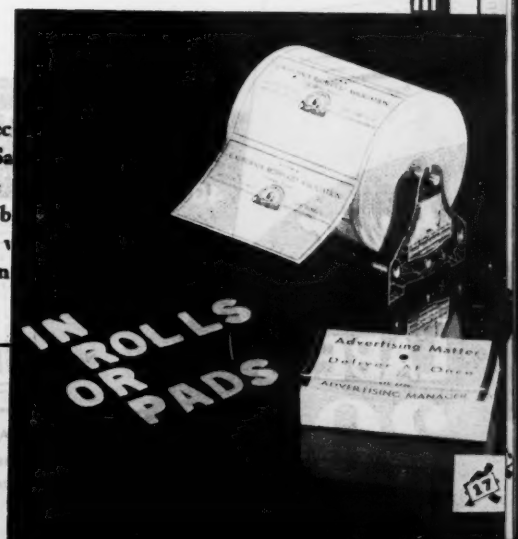
The Slick-Shine Co., Inc.
for S. H. KRESS & CO.

No. 616

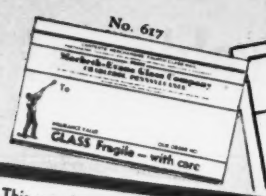
FLINTKOTE
BUILT-UP ROOFING
SPECIFICATION C-3-W-S

No. 605—4 x 4 in.

This spec
Viskalt Sa
top edge
Asphalt b
Surfaced
foot. Ten



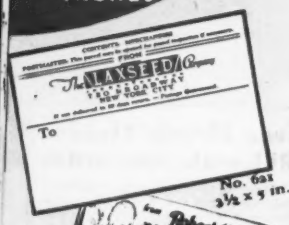
Ever Ready LABELS 18 SQUARE INCHES



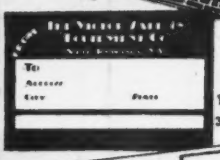


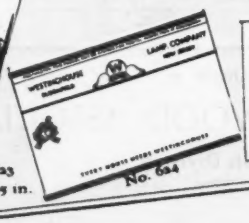








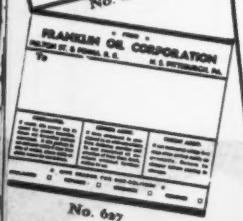




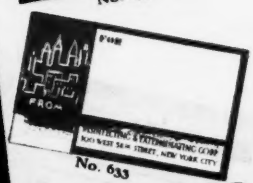


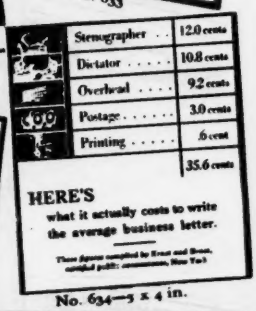


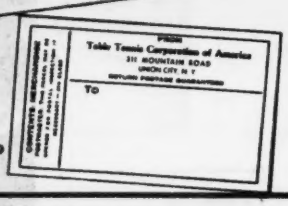












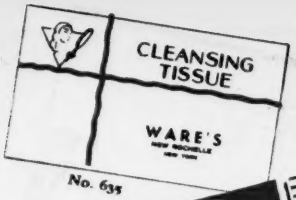


Ever Ready LABELS 20 SQUARE INCHES

• PAPER—white gummed or ungummed. • INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 15%. • Colored Papers—add 15%. • For available colors see page 47. **EVER READY LABEL HOLDER FREE WITH FIRST ORDER.**

XUM

Ever Ready LABELS 22 SQUARE INCHES



No. 635


No. 636
4½ x 4½ in.



CRUTTENDEN & EGER
LEON H. LEWIS—ASSOCIATE
64 E. LAKE ST. CHICAGO, ILL.

ADVERTISING

No. 638—4 x 5½ in.

PRICES
Per Thousand
5,000 - $2.55
10,000 - 2.10
Second col. 15% add.


No. 641
5¼ x 4 in.



No. 637



No. 642



No. 639
3½ x 6 in.



No. 640—4 x 5½ in.



No. 643



No. 644
4 x 6 in.

from

CONTENTS: MERCHANDISE

POSTMASTER: This parcel may be opened for postal inspection if necessary.

RETURN POSTAGE GUARANTEED

Stamps Here

BENJAMIN ELECTRIC MFG. Co.
DES PLAINES, ILLINOIS

To

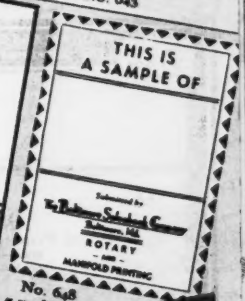
No. 647—4 x 6 in.

Invoice No.

SPECIAL MARKS

PRICES
Per Thousand
5,000 - $2.70
10,000 - 2.40

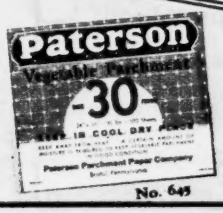
Your Order No.



No. 648
7 x 4½ in.



No. 649



No. 645



No. 646—3 x 8 in.

The miniature labels are merely suggestions. Sizes noted may be used to accommodate your copy.
The large labels are the **recommended** maximum sizes for large express or freight shipments.
YOUR LABEL PROBLEMS ARE OURS TO SOLVE.

Ever Ready LABELS 24 SQUARE INCHES

Ever Ready Stock Shipping Labels

2" x 3" to 3" x 4½"

From
To
RETURN POSTAGE GUARANTEED

No. 650—2¼ x 4½ in.
Printed Red or Blue
1000—$2.50 per thousand
5000—$1.50 per thousand

No. 653—2½ x 4½ in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.70 per thousand

For

No. 651—2¼ x 4 in.
Colors as Illustrated
1000—$3.00 per thousand
5000—$1.75 per thousand

From

No. 654—2½ x 4 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$1.90 per thousand

Price includes Imprinting Your Name and Address

A distinctive group of stock designs . . . high in attention value, yet low in price. Labels in 1 M lots are cut single. In 5 M lots furnished in roll form. FREE HOLDER with roll label order.

From

No. 652—2½ x 4 in.
Printed Red or Blue
1000—$2.50 per thousand
5000—$1.40 per thousand

© EVER READY LABEL CORP. N. Y. C.

From
POSTMASTER: CONTENTS MERCHANDISE
This parcel may be opened for inspection if necessary

No. 655—2½ x 4½ in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.60 per thousand

© EVER READY LABEL CORP. N. Y. C.

Ever Ready LABELS
Go Places and Do Things

From
POSTMASTER: CONTENTS MERCHANDISE
This parcel may be opened for inspection if necessary

For

No. 656—2 x 3 in.
Printed Red, Blue or Black
5000—$1.15 per thousand
10000—$1.00 per thousand

MASON MAILERS and *Ever Ready Labels*
...A DISTINCTIVE SHIPPING ENSEMBLE

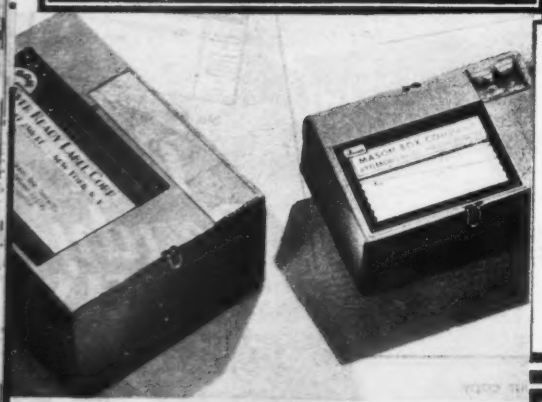
Shippers throughout the country agree that Mason Modern Mailers take most of the work and all of the worry out of shipments by mail. They reduce postage and carry articles in perfect safety.

Only Ever Ready labels could complete the perfect combination of container and label . . . making the perfect package ensemble.

Label 656 is also available in size 3 x 4½, and label 657 in smaller 2 x 3 size.

Price includes name and address imprint.

Furnished in convenient roll form or cut single. State your preference. FREE ROLL LABEL HOLDER.



POSTMASTER • CONTENTS MERCHANDISE
This parcel may be opened for inspection if necessary

FROM

To

No. 657—3 x 4½ in.
Printed Red, Blue or Black
5000—$1.80 per thousand
10000—$1.60 per thousand

A good package deserves a good label

Effective Designs Become Doubly Effective When Printed on Tinted Paper Stock

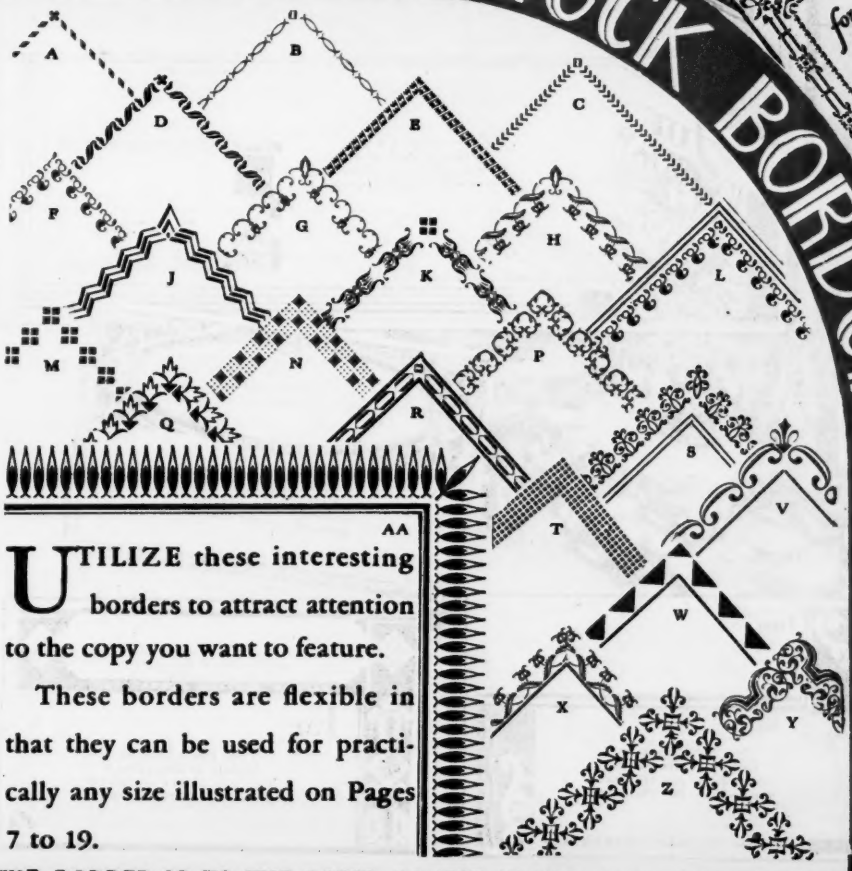
ANY label will change its appearance completely when printed on colored gummed paper.

It is impossible to show on these pages the wide range of colors available; nor do the reproductions do justice to the attractive tints.

For that reason we have prepared a sampler of colored stocks, showing colors and prices of Ever Ready's gummed labels.



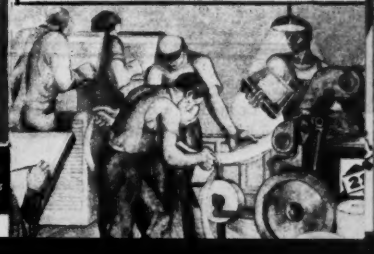
Ever Ready STOCK BORDER DESIGNS



UTILIZE these interesting borders to attract attention to the copy you want to feature.

These borders are flexible in that they can be used for practically any size illustrated on Pages 7 to 19.

THE BORDER IS TO THE LABEL AS THE FRAME IS TO THE PICTURE



DECORATIVE DISTINCTIVE DESIGNS

Ever Ready STOCK ADDRESS LABELS

. . WITH YOUR ORDER FOR LABELS SHOWN ON THIS PAGE

FREE LABEL AND MEMO HOLDER



PRICES INCLUDE IMPRINTING YOUR NAME, ADDRESS AND BUSINESS CARD

Fifth Avenue Designs,

we call them . . . all are as outstanding, as modern, as progressive as Fifth Avenue itself.

Ever Ready's new memo holder is a gem of handiness. Made of Bakelite, this Handy Holder is ideal for holding loose labels and memo blanks as large as 3" x 5".

Attractive and well suited for the desk—takes up little space, yet always ready for rapid and continuous service.

CONTENTS MERCHANDISE
POSTMASTER
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
RETURN POSTAGE GUARANTEED
For

No. 663—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

CONTENTS MERCHANDISE
POSTMASTER
This parcel may be opened for postal inspection if necessary
RETURN POSTAGE GUARANTEED
For

No. 664—3 x 5 in.
Printed Red or Blue
1000—$3.75 per thousand
5000—$2.10 per thousand

From
To

No. 664 Available also in this style.

© EVER READY LABEL CORP. N. Y. C.

From
To

No. 665—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand



From
To

No. 667—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

For

No. 666—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

From
For

No. 668—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.50 per thousand

RETURN POSTAGE GUARANTEED

MEMO
POSTAGE GUARANTEED
For

No. 669—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.50 per thousand

All labels illustrated on this page may also be had in a convenient roll form, if desired and specified.

READILY ADAPTED TO YOUR BUSINESS

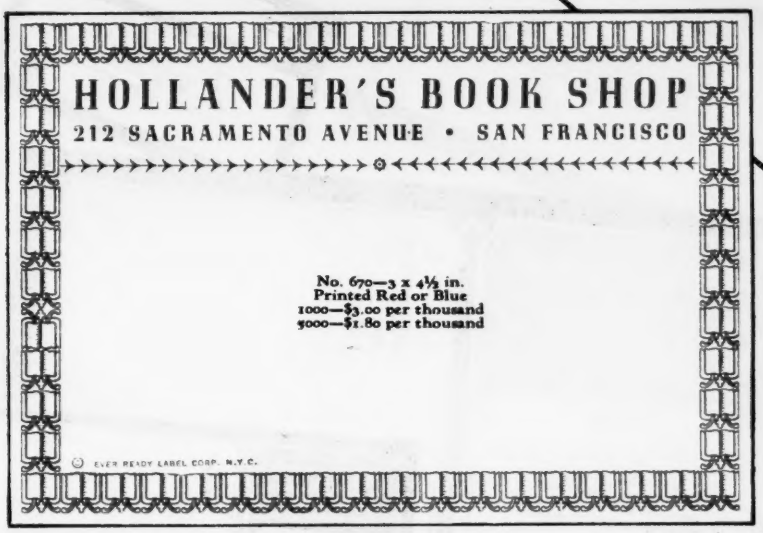
STYLED BY EXPERTS (LEE & PHILLIPS, Inc., of New York)

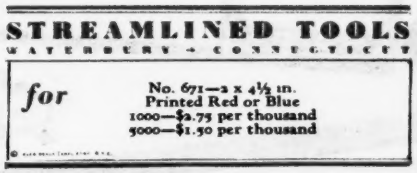
Ever Ready INTERPRETIVE DESIGNS

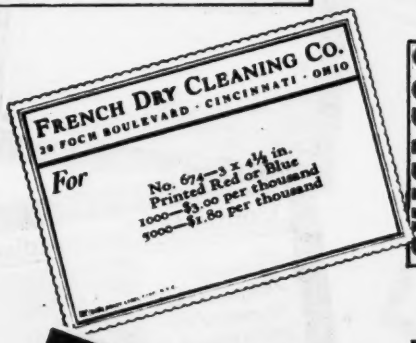
STOCK ADDRESS LABELS

Each label design on this page is made to interpret a very definite feeling that characterizes a particular line of business activity. These labels will create an immediate impression of quality in the eyes of your customers. Labels in 1M lots are cut single. In 5M lots—furnished in roll form. FREE HOLDER with roll label order.

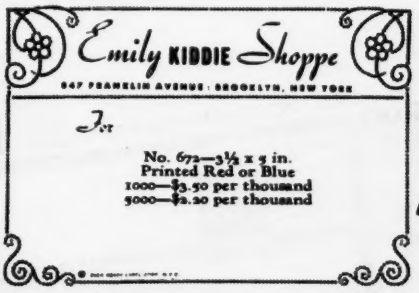
These designs are available to you at no added cost . . . there is no extra charge for imprinting your name and address.

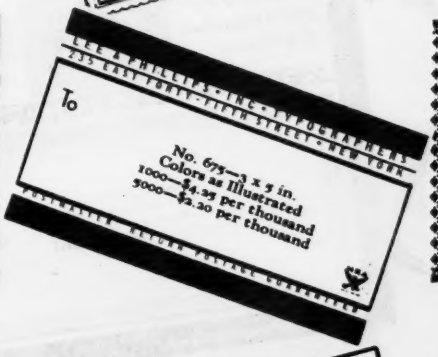


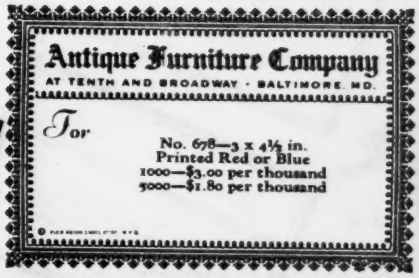






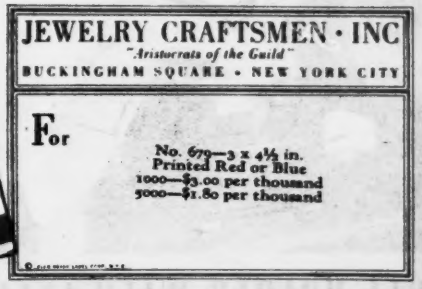






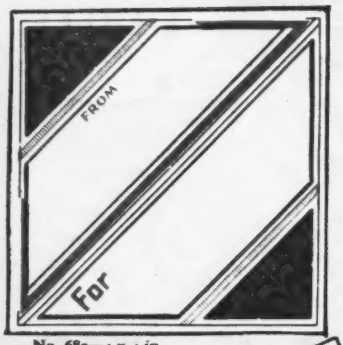




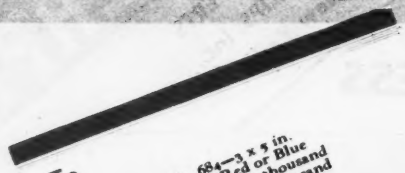


XUM

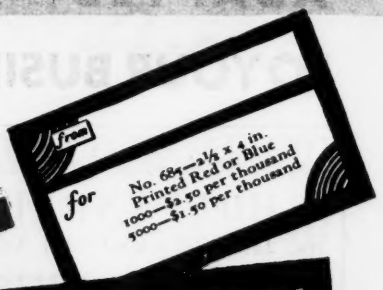
AN ENDLESS VARIETY OF DESIGNS STOCK LABE



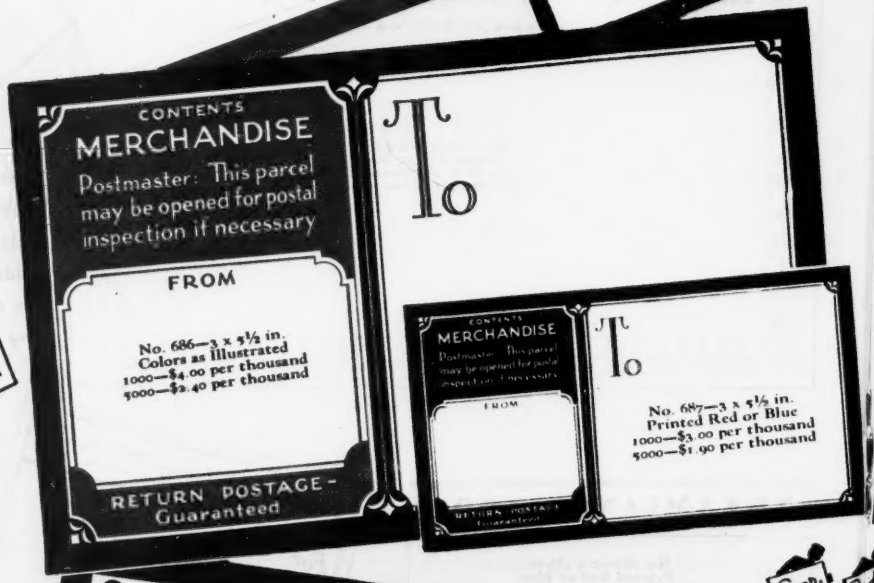
No. 680—4 x 4 in.
Colors as Illustrated
1000—$4.75 per thousand
5000—$2.50 per thousand



No. 684—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.70 per thousand



No. 684—2½ x 4 in.
Printed Red or Blue
1000—$2.50 per thousand
5000—$1.50 per thousand



No. 686—3 x 5½ in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

No. 687—3 x 5½ in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand



No. 681—3½ x 4¾ in.
Printed Red or Blue
1000—$3.50 per thousand
5000—$2.00 per thousand



No. 682—3½ x 4¾ in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.75 per thousand



No. 683—2½ x 4 in.
Printed Red or Blue
1000—$2.00 per thousand
5000—$1.30 per thousand



No. 688—3½ x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

No. 689—3½ x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$2.00 per thousand



FREE HOLDER WITH EVERY ORDER FOR ROLL LABELS

PRICES INCLUDE IMPRINTING YOUR NAME AND ADDRESS

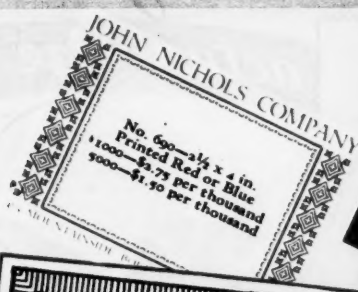
Get away from the conventional type of shipping labels—TWENTY THREE designs offer this opportunity.

Furnished in convenient roll form or cut single; with or without guide lines—state your preference.

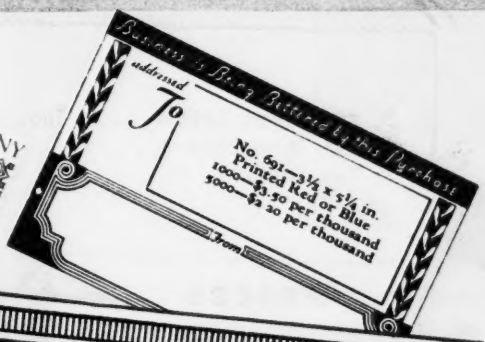
COPYRIGHTED 1935 BY EVER READY LABEL CORPORATION, N.Y.C.

XUM

BEL DESIGNS A COMPLETE RANGE OF SIZES



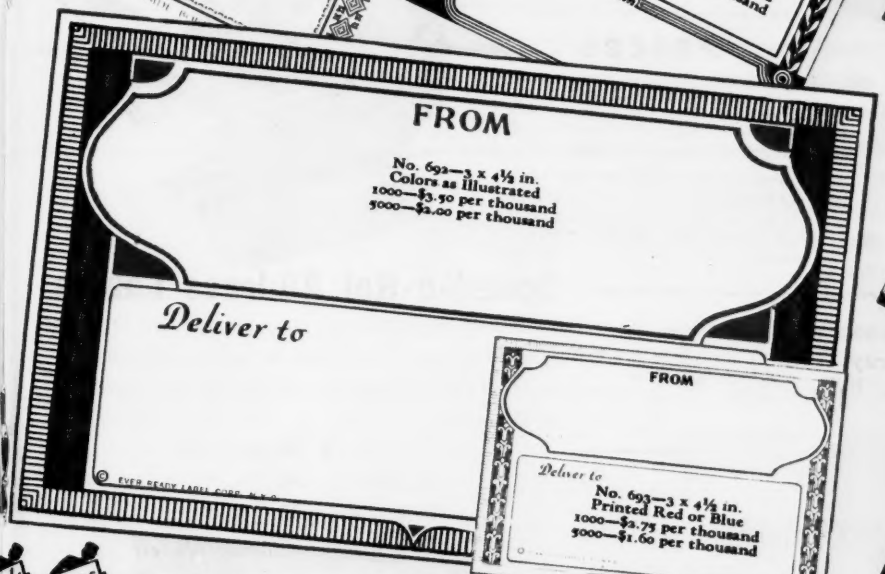
No. 690—2½ x 4 in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.50 per thousand



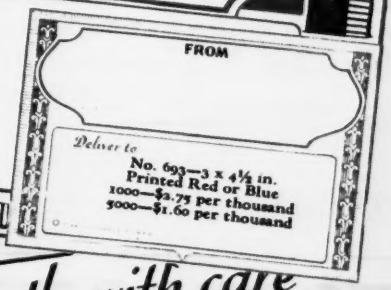
No. 691—3½ x 5½ in.
Printed Red or Blue
1000—$3.50 per thousand
5000—$2.30 per thousand



No. 698—4 x 5 in.
Printed Red or Blue
1000—$3.50 per thousand
5000—$2.30 per thousand



No. 692—3 x 4½ in.
Colors as Illustrated
1000—$3.50 per thousand
5000—$2.00 per thousand



No. 693—3 x 4½ in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.60 per thousand



YOUR NAME
YOUR ADDRESS

No. 699—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.50 per thousand



No. 700—3 x 5 in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.60 per thousand





No. 694—3½ x 5½ in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

No. 695—3½ x 5½ in.
Printed Red or Blue
1000—$3.50 per thousand
5000—$2.00 per thousand



No. 701—4 x 6 in.
Printed Red or Blue
1000—$4.00 per thousand
5000—$2.40 per thousand

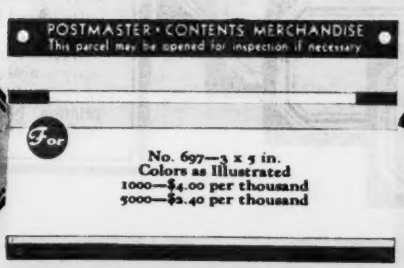


YOUR NAME AND ADDRESS

No. 696—3½ x 4 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

YOUR AD MESSAGE





No. 697—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand



No. 702—3 x 5 in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.75 per thousand

Speed up your mailing with Ever Ready Gummed Labels

24 on a sheet

Efficient Letter Co., Inc.
141 East 25th St.
New York, N. Y.

actual size



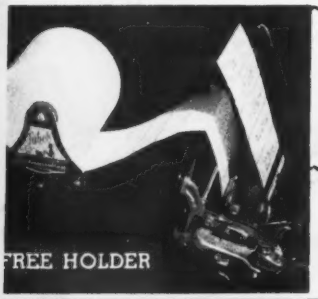
Indispensable for follow-up systems and flexible for varied uses where business depends on direct mail and mail lists.

FOR those using direct mail, these labels are time and money savers—permitting rapid addressing and making as many as three or four copies **at a time**—24 addressed **ery time a sheet is inserted into machine.** More speed—ater ease in handling! • Handy too for making lists to be ached to file cards or records—for addressing large cata- envelopes that cannot be fed through the typewriter.

PRICES

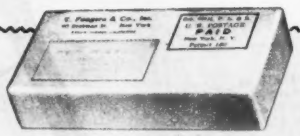
3,000 labels	(125 sheets)	$.60	per 1,000
6,000 "	(250 ")	.50	" "
12,000 "	(500 ")	.45	" "
24,000 "	(1000 ")	.40	" "
48,000 "	(2000 ")	.30	" "

Labels are gummed on one side. • Size of label is 2¾" x 1⅜". • Size of sheet is 8½" x 11". • 24 perforated labels on a sheet. FREE SAMPLE SHEETS.



FREE HOLDER

Dr. Wm. Seaman Bainbridge
34 Gramercy Park
New York, N.Y.



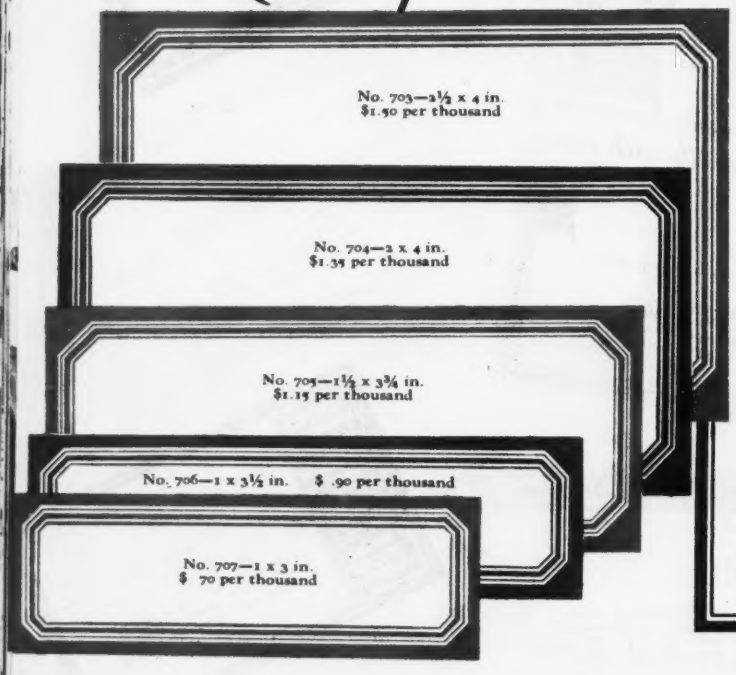
Speed-o-Rol Address Labels

1 x 3 blank gummed labels—run through typewriter in a continuous strip—excellent for rapid addressing and rapid affixing to packages, envelopes, etc. Used also on file folders.

5,000 - -	$ .50	per 1,000
10,000 - -	.40	" "
25,000 - -	.30	" "

Quantity Prices for Quantity Mailers

Ever Ready STOCK LABELS



BLANK and IMPRINTED

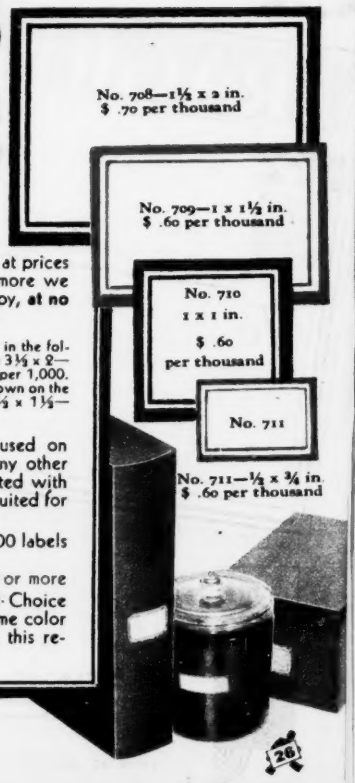
Labels illustrated here (choice of red or blue border) furnished in lots of 1,000 or more at prices indicated. In lots of 5,000 or more we will include your imprint or copy, **at no added cost** (all red or all blue).

Labels shown on left are also available in the following sizes: 4 x 1—**$.90** per 1,000. • 3½ x 2—**$1.35** per 1,000. • 4½ x 2½—**$1.70** per 1,000. • Other sizes carried in stock in style shown on the right are: 2 x 2—**$.90** per 1,000. • 2½ x 1½—**$.90** per 1,000.

These stock labels may be used on wood, glass, cardboard, and any other type of container. May be printed with any copy you wish. Excellently suited for private labels and office forms.

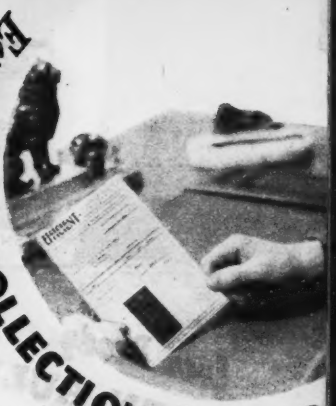
Delivered in rolls or flat—1,000 labels to roll.

Remember—in lots of 5,000 or more you pay **nothing extra** for printing. Choice of red or blue borders, with same color printing. NO ONE else offers this remarkable value.



XUM

Customers Think Your Way—And Pay—When You Use Ever Ready Collection Stickers





No. 712



No. 713



No. 714

This series printed in Red and Blue on gummed SILVER paper

The colorful results are strikingly effective . . . Samples will be cheerfully sent free



No. 715



No. 718



No. 720



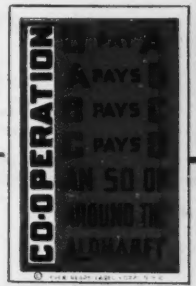
No. 722



No. 724



No. 716



No. 725



No. 717



No. 719



No. 721



No. 723



No. 726

Actual Size 1¾×2½

TESTED ACTION PRODUCERS

REPEATEDLY USED AND ENDORSED BY CREDIT MEN

Outstanding Credit Men testify to the fact that the 70 smart, attractive, colorful and epigrammatic stickers shown on the following pages are effective for the job they are planned to do. The carefully planned letter of the Credit Man and the conservative correspondent, relative to "Big Business" is thoroughly respected by us, yet, our experience by demand from thousands of customers, indicates that in the largest percentage of cases, a gentle nudge or slight hint, will prompt the creditor to action, and retain that most valuable business asset—Good Will • This assortment is prompted because your personal approach to every particular customer is a matter of some thought and the proper application of the correct sticker

SOLD IN UNITS OF 100 (100 to the pad of one design)		
1,000 assorted		$4.00
5,000	" per 1,000	3.50
10,000	" " "	3.00

Ever R

COLLEC STICK



No. 727



No. 728



No. 729



No. 730



No. 731



No. 732



No. 733



No. 734



No. 735



No. 736



No. 737



No. 738

Ever Ready GOLDEN RULE STICKERS

"Do unto others as you would have them do unto you." A profound phrase with real philosophy back of it.

Ever Ready has turned the solemnity into humor—but the iron-clad philosophy remains, in this strictly original series.

They are yours for snappy, yet dignified collections. Stand out impressively on any style or color letterhead. These are genuine action-compelling stickers that do not beg or threaten but do educate your customers to the advantages of prompt payment.

Golden Rule stickers printed on a gummed stock that looks like 14 karat gold. They've been tested on thousands of accounts and proved effective on both large and small amounts. Sold in quantities of 1000 or more, 100 stickers to the pad.

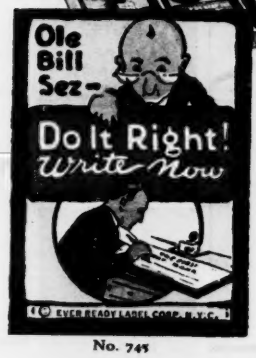
Nos. 751-761 Printed in Brilliant Blue Black on Gold Stock, **$3.00 per thousand.**
Actual Size 1⅛" x 2¼".

Nos. 762-767 Printed in two colors, Brilliant Blue Black and Red on Gold Stock, **$4.50 per thousand.**
Actual Size 2¼" x 3¼".

TRY THEM ON YOUR NEXT STATEMENTS

Deduct 15% from total price if you buy 5000 (one kind or assorted).
Deduct 25% from total price if you buy 10,000 (one kind or assorted).





No. 765



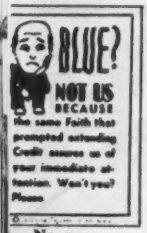
No. 751



No. 752



No. 753



No. 754



No. 755



No. 756



No. 757



No. 758



No. 759

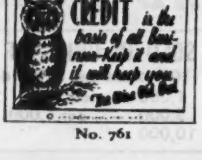
GOLDEN RULE COLLECTION STI

Complete description and prices of Golden Rule collection stickers will be found in the panel above labels 752 and 753.



No. 760

Labels Nos. 751 to 761 are size 2¼ x 1½.
Labels Nos. 762 to 767 are size 2¼ x 3¼.



No. 761



No. 762



No. 763



No. 764 © EVER READY LABEL CORP. N.Y.C.


No. 767

XUM

r Ready
ECTION
CKERS



All "Ole Bill" STICKERS THIS SIZE



No. 739



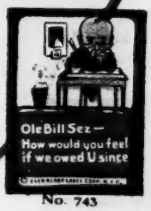
No. 740



No. 741



No. 742



No. 743



No. 744



No. 745



No. 746



No. 747



No. 748



No. 749



No. 750

"OLE BILL" COLLECTS OLD BILLS!

Meet "Ole Bill," the genial bookkeeper, who, with subtle humor and homely philosophy urges the signing of the check by striking the funny bone, and with smiles and laughter awakens those action nerves. "Ole Bill" collection stickers are being used effectively by well known mercantile houses, manufacturers, retailers and professional men. They are inexpensive. There are twenty-four slogans. You select the one that best fits your case and Presto! —before you know it, collections start coming in. Twelve hundred "Ole Bill" stickers come in a handy bookkeeper's box (note illustration at left)— made to hold twelve pads. Each pad contains 100 gummed "Ole Bill" stickers. All are printed in three vivid colors—yellow, red and blue. There are twenty-four to select from. You make your own assortment.

WE MAKE THIS OFFER

Let us send you YOUR ASSORTMENT of "Ole Bill" for $3.50. Pick out the styles you like best and try them immediately. If you get no results and no favorable comments, return the balance and with no questions asked we'll return your remittance.

Price Per Box 1200 Labels
12 pads—100 stickers each
$3.50

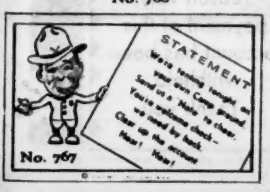
ON STICKERS



No. 765



No. 766



No. 767

Sampler Package

100 COLLECTION STICKERS *for* **25¢**



To Skeptics—

you who hesitate to buy before you try—we offer Ever Ready's Sampler (as illustrated). 100 colorful and interesting stickers to contact delinquent accounts—The bad boys on your list. Send 25c—try 'em—use 'em—then buy 'em in quantity.



The Ever Ready GO L

Sold in units of 1000 of a kind. Assortment permitted in 5000 quantity.

The repeated demands for the collection of small accounts entail an expense absorbing all profit. We trust that you will give this request for a settlement of your account immediate attention.

No. 771 1000—$1.00 per M 5000—$ .75 per M

EXPERIENCE SHOWS THAT THEY PRODUCE RESULTS

"Successful business demands prompt collections and prompt payment. We request prompt payment in the same courteous manner we solicit your trade. Both are necessary for our success".

No. 768 1000—$2.00 per M 5000—$1.25 per M

We are still looking for your check to cover our statement of_____ for $_____ We feel sure that we can count on you for a remittance by return mail.

No. 769 1000—$2.00 per M 5000—$1.25 per M

THE LAST MAIL Has Arrived

We were disappointed because of your failure to send a remittance to cover our statement of_____ for $_____

We must insist on a check by return mail.

No. 770 1000—$2.00 per M 5000—$1.25 per M

THIS ACCOUNT NOW PAST DUE

has probably been overlooked

WE WOULD APPRECIATE YOUR EARLY REMITTANCE

No. 772 1000—$1.00 per M 5000—$ .75 per M

We want you to know *that* YOUR PATRONAGE HERE IS APPRECIATED

No. 773 1000—$1.00 per M 5000—$ .75 per M

★ This account has apparently been overlooked. May we remind you that it IS due and that you should remit promptly

No. 774 1000—$1.00 per M 5000—$ .75 per M

WE HAVE BEEN WAITING TO HEAR FROM YOU ON THIS ACCOUNT. IF NOT CONVENIENT TO SETTLE IN FULL AT THIS TIME A PARTIAL PAYMENT WILL BE APPRECIATED.

No. 775 1000—$1.00 per M 5000—$ .75 per M

OUR CREDIT IS GOOD

BECAUSE YOU PAY YOUR ACCOUNT HERE PROMPTLY

THANK YOU

No. 776 1000—$1.00 per M 5000—$ .75 per M

IF THERE IS ANY REASON WHY THIS ACCOUNT SHOULD NOT BE PAID WITHOUT FURTHER DELAY, KINDLY INFORM US.

No. 777 1000—$1.00 per M 5000—$ .75 per M

As termination of our fiscal year approaches, we desire to close our books with all accounts balanced.

Payment will be appreciated.

No. 778 1000—$ .75 per thousand 5000—$ .60 per thousand

We are required to report all past due accounts to our local credit bureau. An early payment protects your interest.

No. 779 1000—$ .75 per thousand 5000—$ .60 per thousand

PAST DUE!

Please favor us with a remittance by return mail Thanks

No. 780 1000—$2.00 per M 5000—$1.25 per M

All *charges are made on a 30-day basis Please!*

No. 781 1000—$2.00 per M 5000—$1.25 per M

Won't you please tell us if there is reason why payment of this account has been withheld. Thank you

No. 782 1000—$2.00 per 5000—$1.25 per M

LD DIGGERS of Today



Just now the Bookkeeper said, "Don't they ever pay their bills?" My chin dropped.

After all, we served and satisfied.

Aren't we entitled to kind consideration?

Please justify my faith in you by mailing a check today.

Cordially yours,

U-Sign-Here

No. 783

Cardiac Hyperthrophy—
A medical expression for a big heart.

This reminder is intended as an appeal to a big heart and an overflowing check book.

We've been patient a long time.

Thanks.

Cordially yours,

No. 784

It's strange how often small things are overlooked.

Star gazers concentrate to enlarge small things, and acorns grow to be large oaks, but—

This stagnant account isn't making our bank account larger and we're asking you to look into it with your strongest glasses.

Oh, how grateful we'd be.

Cordially yours,

No. 785

1000 $2.00
5000 $1.25 per M

We're on the warpath.—

Necessity prompts many things.

If the pen be mightier than the sword, we'd be grateful if you'd sign a check.

Transfer that part of your wealth which has rightfully belonged to us for many weeks.

We don't like to be quarrelsome.

Cordially yours,

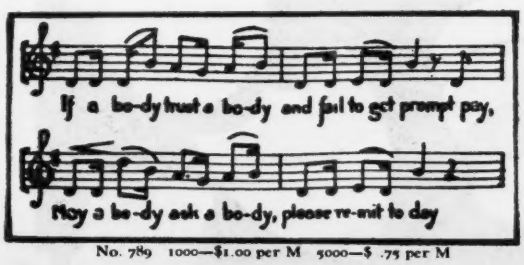
No. 786

THE COURTESY OF YOUR PROMPT ATTENTION WILL BE GREATLY APPRECIATED.

No. 787 1000—$1.00 per M 5000—$ .75 per M

There never was a product made
(The truth we must confess)
But what some Bird could make it worse
And sell his stuff for less.

No. 788 1000—$1.00 per M 5000—$ .75 per M



No. 789 1000—$1.00 per M 5000—$ .75 per M

YOU CAN MAKE BUSINESS BETTER BY PAYING A LITTLE ON THIS ACCOUNT

A growing list of delinquent accounts is a drag on any business. To discount our own bills we MUST collect outstanding accounts on our books promptly. Why not pay something on you account NOW.

No. 790 1000—$2.00 per M
5000—$1.00 per M

YOU CAN PAY A LITTLE EVERY WEEK ON YOUR ACCOUNT

We don't measure the value of a customer's account by its size, or by the amount he pays on it—By paying a little you show the right spirit and it helps to maintain friendly relations. May we expect your check by return mail?

No. 791 1000—$2.00 per M
5000—$1.00 per M

WHY NOT DISCOUNT THIS BILL?
If paid by you deduct
OTHERWISE PAYABLE NET 30 DAYS

No. 792 1000—$2.00 per M
5000—$1.00 per M

MOONSHINE TWINS



"Before"

No. 795
1000—$ .75



"After"

No. 796
1000—$ .75

Black on Yellow

Tipped on statements, these spots of color center attention and cry out your request.



No. 793 1000—$3.50 per M
5000—$2.00 per M
Black on Silver



No. 794 1000—$3.50 per M
5000—$2.00 per M
Black on Silver

Ever Ready Quality

Embossed Good-Will Seals

3000 Assorted—$4.00



No. 797
1000—$1.50



No. 798
1000—$1.50



No. 799
1000—$1.50
Green on White



Ever Ready Dummy Stamp Stickers

—For identifying merchandise
—For sealing mailing pieces
—For attaching post cards to mailing pieces

EVER READY makes Dummy Stamp-Stickers—exactly the same size as U. S. Postage Stamps, for use in stamp affixing machines, such as the Standard Stamp Affixer, the Mail-O-Meter, and similar machines. Splendidly adapted for sealing direct mail literature, for identifying merchandise by trademark, for pricing and recommended where rapid application is important.



No. 800 No. 801 No. 802 No. 803
No. 804 No. 805 No. 806 No. 807

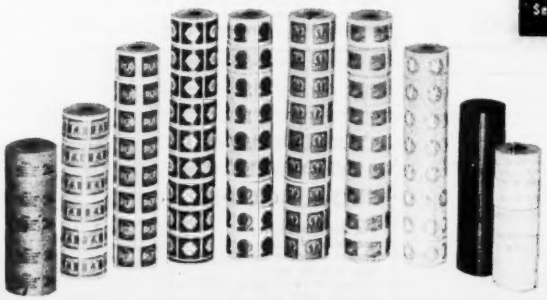
"Trade Marks Are Trade Sparks"



No. 808



No. 809



BLANK stamp-stickers now carried in stock in following colors: white, black, red, yellow, blue, green, pink, orange and brown.

5,000 at $ .50 per 1,000
10,000 " $ .40 " "
25,000 " $ .30 " "
50,000 " $ .25 " "

Ask for special quotation on printed stamp-stickers and quantity requirements.

DIECUT UTILITY STICKERS and SEALS



FOR marking and pricing—for sealing circulars, broadsides, folders—to attach reply cards—for swatches—for innumerable practical purposes. Hundreds of other shapes are carried on hand for instant delivery. If you don't see what you want here, ask for samples, and consult us on special needs.

PRICES WITHOUT PRINTING

(All prices are per thousand)

SIZE	WHITE GUMMED			WATERPROOF COLORS*			GOLD & SILVER NON-TARNISHABLE		
	5,000	10,000	25,000	5,000	10,000	25,000	5,000	10,000	25,000
Diameter 1" or less	$ .25	$ .20	$ .18	$ .30	$ .25	$ .22	$ .50	$ .40	$ .35
Diameter 1½" or less	.35	.28	.24	.45	.35	.30	.70	.60	.54
Diameter 2" or less	.50	.40	.34	.60	.45	.40	1.05	.95	.85

*Colors available: Red, Orange, Yellow, Green, Blue, Brown, Black and pastel shades.

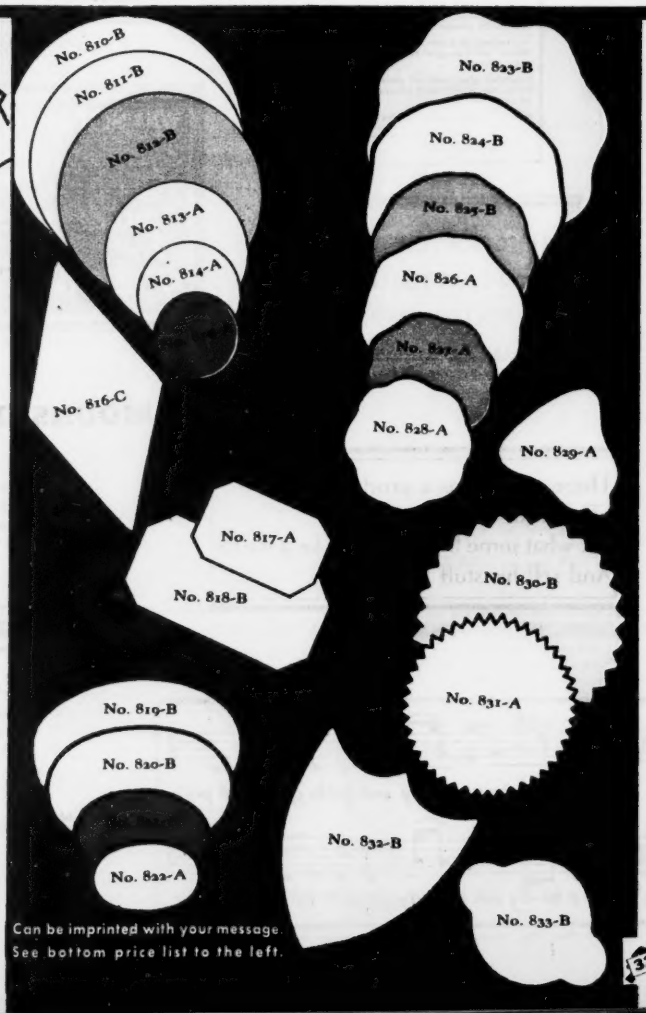
PRICES WITH PRINTING

(All prices are per thousand)

SIZE	WHITE GUMMED			WATERPROOF COLORS*			GOLD OR SILVER NON-TARNISHABLE		
	5,000	10,000	25,000	5,000	10,000	25,000	5,000	10,000	25,000
Diameter 1" or less	$1.00	$ .75	$ .64	$1.25	$ .90	$ .75	$1.50	$1.20	$ .95
Diameter 1½" or less	1.15	.95	.78	1.35	1.10	.90	1.75	1.40	1.20
Diameter 2" or less	1.30	1.00	.85	1.50	1.30	1.05	2.25	1.75	1.40

*Colors available: Red, Orange, Yellow, Green, Blue, Brown and pastel shades.

SPECIAL PRICES IN LARGER QUANTITIES



Can be imprinted with your message. See bottom price list to the left.

Ever Ready REVERSE PLATE *and hand lettered labels*

SHOWING THE EVOLUTION FROM THE SIMPLE TO THE DISTINCTIVE LABEL...

SEARS ROEBUCK & CO.
CHICAGO. ILL.
FOR
RETURN POSTAGE GUARANTEED
No. 834 ①



SEARS ROEBUCK & CO.
CHICAGO. ILL.
FOR
RETURN POSTAGE GUARANTEED
No. 835 ②

Note three different presentations of the same label.

Note that the contents of all three labels shown above are identical, yet the treatments are entirely different.

① This label printed from stock type set in straight lines; the borders made from stock rules.

② This label is the same as No. 1—except reversed and requiring a cut.

③ A hand drawn label—main elements derived from artist's handiwork—requiring both art work and cut.

No. 1 Price same as other 6 sq. in. labels. 5 M at **$1.15**—10 M at **$1.00**

No. 2 cost of cut is **$3.00**—Printing of labels same as No. 1

No. 3 cost of drawing and cut **$6.50**—Printing of labels same as No. 1

Sears · Chicago · Illi
for
③ No. 836

KEYSTONE SNOW SHOVEL
RUGG
No. 837

WATER LILIES
AQUATIC PLANTS
ORNAMENTAL FISHES
WM. TRICKER INC.
Saddle River N.J.
RUSH
PERISHABLE
No. 843-A

the FAIR STORE
MICHIGAN
No. 845

No. 846

208 FULTON STREET, NEW YORK
No. 838

6 POINT Engraving Service
No. 839

ADVERTISING
No. 840

COLUMBIA CRUISES
PANAMA PACIFIC
No. 847

HERE IS YOUR gift
THERMOMETER
FRAGILE
No. 848

Schultz
122 NASSAU ST. NEW YORK CITY
HIGH GRADE ATHLETIC EQUIPMENT
NO. SIZE PRICE
No. 841

HALL BROS. STALERS
KANSAS CITY, MO
No. 842

FROM THOMAS NEW YORK MILLS
coffee
INDIVIDUAL TEA BALLS
SWEET BEER TEAS
No. 849

The Canterbury ART GUILD INC.
No. 850

LORATE COMPANY, INC.
LORATE
TO
No. 843

No. 844

FROM Character Bags Inc.
24-26 WAVERLY PL. NEW YORK
TO
No. 851

A "PLUS" VALUE

LABELS shown here indicate the possibilities for featuring trade marks, individual and distinctive designs, thereby securing "plus" advertising value in conjunction with the practical purpose of your label.

Our facilities enable us to create such artistic and distinctive designs. Their advertising value will prove effective long after the first cost has been paid and forgotten.

THE COST of Hand Lettered and Reverse Plate labels is figured on the square inch basis, as other Ever Ready Labels. The only difference is the first cost of art work and plates—and such drawings and plates become your property after order is completed. *We ask you to pay for these drawings and cuts on the first order only.*

COST NO MORE THAN ORDINARY LABELS after you pay initial low cost of drawing and cut, which are CHARGED AT COST.

No. 840—Drawing and plate cost about . .	**$5.50**
No. 841—Drawing and plate cost about . .	**$6.00**
No. 851—Drawing and plate cost about . .	**$9.50**
No. 838—Plate cost about	**$5.00**

NO DRAWINGS REQUIRED FOR REVERSE LABELS FROM TYPE—ONLY CUT IS NECESSARY

THEIR ADVERTISING VALUE REMAINS LONG AFTER THE COST IS FORGOTTEN



Ever Ready LABELS FOR PACKAGING &



THE large manufacturer of nationally adver tised products calls in packaging and stylin experts whose fees run into three or fou figures.

Ever Ready doesn't pretend to offer thi service, but the experience gained by handling 10 or more problems daily, naturally flows to the ad vantage of the small and medium sized manufac turers and packers.

In short, Ever Ready makes it possible for a rela tively small business to buy a fine looking packag label at a price that eliminates all the frills and extr charges—a price it can afford to pay.

"How can Ever Ready do **that?**" you'll ask.

We have accumulated 2000 dies available to yo at no added expense. Thus we solve, **to you advantage,** the problem of shape. The appearanc of the label is further enhanced through an appro priate design. And here, both art work and plate necessary to create the hand drawn and reverse plate effects, are charged to you at cost. The fina touch is given by a dash of proper color against ar intelligently selected shade of stock.

We suggest that you send us your present or proposed package with a few details or some liter ature about your selling plans. We feel confident in our ability to respond with a concrete suggestion that will be the solution of your problem.

*Ever Ready will gladly quote on your embossed seal requirements.



STYLING *including* DIE CUT LABELS & SEALS

ver Ready is equipped to produce 2,000,000 Idea-tickers daily. We have unique machinery for production, printing many colors in one operation. We laim also mental facilities that will help develop he problems you entrust to us. Tell us the idea you vant to put over—we'll furnish a design with a punch.

Ever Ready's

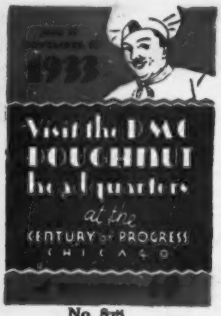
BUSINESS MEN AGREE ON LABELS



No. 877

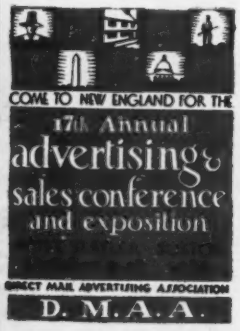
GGER AND BETTER CONVENTIONS THRU THE USE OF STICKERS

fter a fellow gets to a convention has a pretty good time—makes of business contacts. But it's a gh job getting the average man to convention. That's where stickers e in—and do they do a big job! en organizations like American ion, American Management As-iation and similar groups use them, just know they're clicking. ey've *got* to click.



No. 878

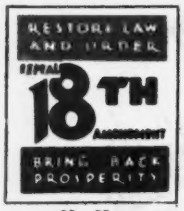
Members use convention, exposi-, fair and jubilee stickers on out-ng correspondence and merchan-because they always attract ntion.



No. 879

LABELS—BASIC AMERICAN PROPAGANDA MEDIUM

The actual business of repealing prohibition was the work of *one day*. That day of voting followed *years* of propaganda for repeal. Basic media of that propaganda drive were the Ever Ready label and windshield stickers! Did they do a bang-up job? You answer that one.



No. 880



No. 881

When first class postage rates were raised from 2c to 3c per ounce, many business folks felt that the rate tended to discriminate against local mail users. This meant propaganda to restore the local 2c rate. Extensive use of Ever Ready Labels by the Direct Mail Advertising Associations did the major share of the propaganda job (on letters, invoices, statements, merchandise, etc.)—and today we have the local 2c rate. Ever Ready Labels speak for themselves with *Action*.



No. 882



No. 883



No. 884

Two billion Ever Ready N.R.A. Seals used within the six months between August, 1933 and February, 1934 popularized the Blue Eagle as no emblem was popularized before! Became the world's greatest trademark.



No. 885



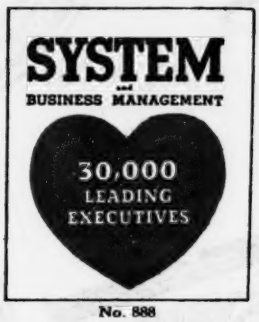
No. 886

Believe us when we say that the little sticker gets into places where other propaganda media fail to penetrate—and if you have a publicity or propaganda job, small or large, that *must be done*—Ever Ready Labels can be relied upon to do it.



No. 887

ENTHUSIASTIC PUBLISHERS WANT LABELS!



No. 888

Magazine, book and sheet music publishers alike turn to Ever Ready Labels to *put over* their latest offerings—their newest issues. How they do it?—it's simple! Magazine, Book or sheet music covers are made to do a selling job with outstanding illustrations and designs. What could be more appropriate than miniatures of those covers slipped into places where people would be attracted to them. Ever Ready Labels slip into those places on correspondence, on packages, on other covers, etc.

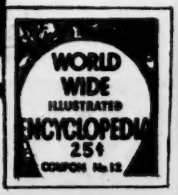


No. 889

Magazine publishers who want to boost circulation—book publishers who want to push certain of their offerings, to tie them up with movies, for example—music publishers who want to plug certain numbers—all can rely on Ever Ready Stickers to do the job.



No. 891



No. 892

LABEL NEWS

There is NO business house, organization or profession that cannot profitably use labels to achieve something new, or to perform some old task BETTER. This sweeping conclusion is supported by the array of useful ideas shown here. Remember, please, that these items are only a few of MANY.

AS A BASIC ADVERTISING MEDIUM



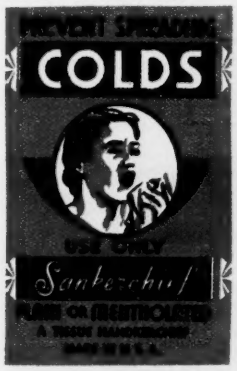
No. 893

STICKERS OFFER AD VALUE PLUS PROTECTION

Water constantly dropping on a stone will eventually wear away that stone.

Ever Ready Labels bearing your slogan, your trademark, your ad—will eventually wear away sales resistance and put your message across.

We cannot begin to tell you the many, many ways Ever Ready Labels have served others.



No. 894

Here are some thoughts:

- —Association trademarks
- —Miniature reproductions of magazine and newspaper
- —Miniature catalog cover reproductions.

ads. —Miniature reproduction of packages.
- —Change of address stickers.
- —Departmental reminders from department stores.

We'll be glad to suggest hundreds of other ways of using stickers in your advertising.



No. 895

STEAMSHIP & TRAVEL AGENCIES USE EVER READY STICKERS



No. 896

Going abroad? Going touring? Going to Cincinnati? Going anywhere? The answer "yes" will bring with it the request for labels to stick on one's luggage and on the windshield of the car

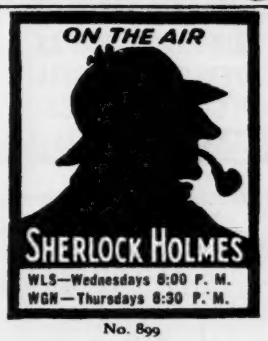


No. 897

If you are promoting a hotel or travel service—if you are managing scenic wonders—if you are the agent for railway or steamship lines—if you are the secretary of a chamber of commerce, proud of your city, state or community, Ever Ready stickers will do the promoting job in the most *popular* way. Travellers like labels—and will use them!



No. 898



No. 899

NATIONAL RADIO ADVERTISERS GET NEW LISTENERS BY USING LABELS

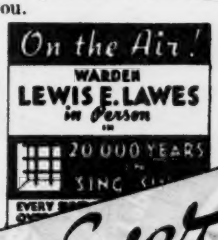


No. 900

Used by radio advertisers to tie up with their broadcasts. They can be used as dealer helps—for advertisers or their dealers to paste on to letterheads, bills, envelopes, merchandise—the spot of color that delivers your message with a punch.

Ever Ready stickers help merchandise your radio programs—create consumer interest—an inexpensive medium that produces genuine results.

If you'll send us the literature and data about your program, we'll be in a better position to offer suggestions to you.



No. 901



No. 902



No. 903



No. 904



No. 905



No. 906

Ever Ready HEADLINERS

FEATURING LABEL-MESSAGES THAT GO PLACES AND DO THINGS

Ever Ready STOCK



Made in different sizes and colors. To be used on sales charts and score cards, as decorations, displays and novelties, in school and kindergarten work, for card indexing, stock taking and map routing. Ever Ready can satisfy these and similar requirements.



No. 913
1000—$1.00
5000—$ .60
10000—$ .45
per thousand

No. 914
1000—$1.00
5000—$ .60
10000—$ .45
per thousand

Post Office requires that every sealed parcel for third or fourth class handling bear this label. To make sure that YOUR sealed packages receive proper rate use label 913 or 914.



No. 916
2 x 4½ in.



No. 917
2 x 4½ in.



No. 921
2 x 4½ in.

No. 915 to 921
1000—$1.50
5000—$1.00 per M



No. 918
2 x 4½ in.



No. 915
2 x 4½ in.

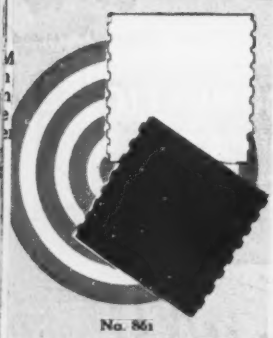


No. 919
2½ x 2¾ in.



No. 920
2¼ x 3½ in.





No. 861

Made of black or white gummed stock; in rolls of 500 each with perforations between each label. Used for covering bullet holes in targets, also for mounting signs, posters, cards and sealing mailing pieces. (See page 32.)



Send for FREE SAMPLER

Ever Ready believes that you would like to see or actually feel the labels in which you are particularly interested. Therefore we invite you to send for any of the following samplers.

1. ADVERTISING LABELS (Idea Stickers)
2. PACKAGE IMPROVEMENT
3. GOLD AND SILVER LABELS
4. ADDRESS LABELS
5. ART DESIGN LABELS
6. P. O. APPROVED LABELS
7. EMBOSSED SEALS
8. STOCK UTILITY LABELS
9. GUMMED LABELS
10. GUMMED PAPERS
11. DIRECT MAIL SEALS AND SPECIALTIES

UTILITY LABELS





No. 928 Black letters on white gummed paper, printed on perforated sheets. Used for file folders, cards, drawers, as index tabs for indexes, etc. Prices on request.



No. 929 Black figures on gummed white paper, printed on perforated sheets. Used for numbering file boxes, shelves, hooks, books, packages, mail boxes, storage items, chairs, etc. Prices on request.



No. 922 60 cents per thousand



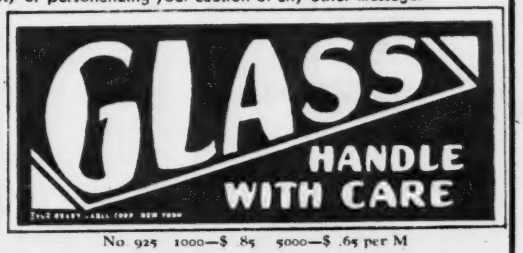
No. 923 60c per M

Department Store Labels

Labels 924 to 926 will lend a modern touch to packages that leave your shipping room.
*Label 927 indicates the possibility of personalizing your caution or any other message.



No. 924 1000—$ .85 5000—$ .65 per M



No. 925 1000—$ .85 5000—$ .65 per M



No. 926 1000—$ .85 5000—$ .65 per M



No. 927 Prices on request.



No. 930



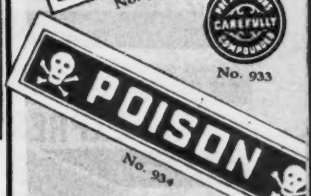
No. 931



No. 932



No. 933



No. 934

Nos. 930 to 934 60c per 1000

5,000 *for* $3.00

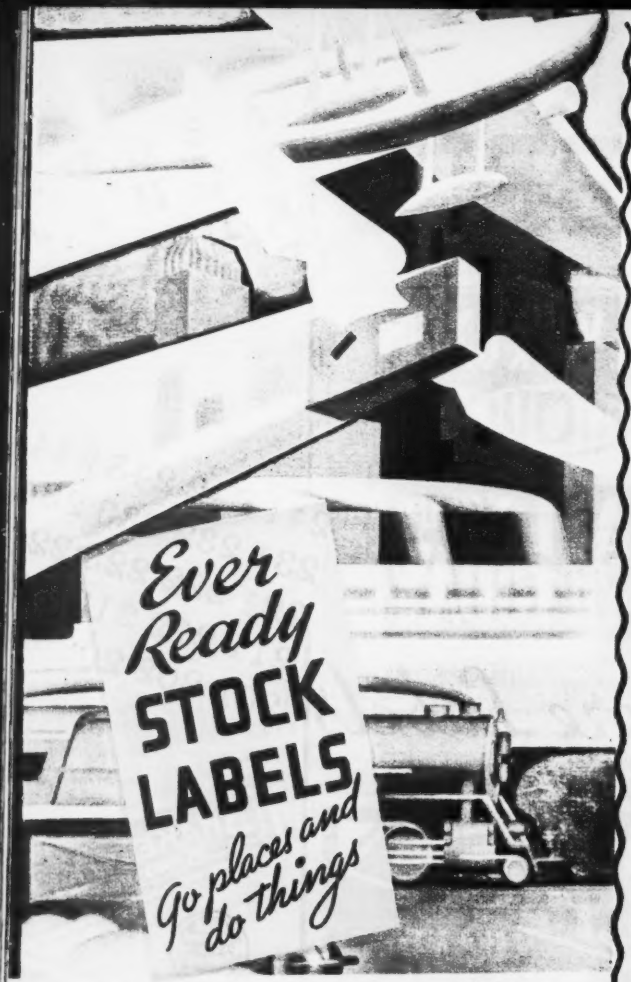
THINK OF A MESSAGE YOU NEED TO DELIVER



THIS SPACE RESERVED for YOUR MESSAGE



Refer to Pages 4-5 for Suggested Uses.

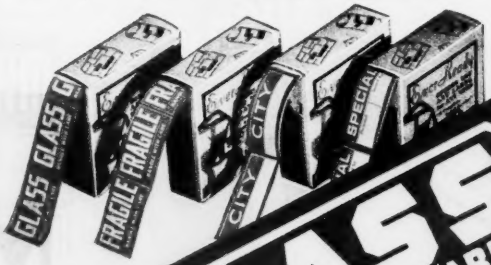


STOCK "All Purpose" LABELS

TIME SAVERS . . . MISTAKE PREVENTERS . . . ATTENTION GETTERS

Gummed and deeply perforated.
Packed one thousand to a roll.
Each roll in a convenient dispensing carton.

5000—60c per M.
10000—50c per M.
Single 1000—75c
Special prices in quantities



ALL THIS SIZE

actual size

GLASS
HANDLE WITH CARE

No. 935

EXPRESS
No. 962

PARCEL
No. 952

See INVOICE INSIDE
No. 963

SPECIAL DELIVERY
No. 943

SHIP
No. 953

THIS SIDE UP
No. 964

LIQUID
FRAGILE · THIS SIDE UP
No. 944

PREPAID
No. 954

OPEN THIS END
No. 965

RUSH
No. 945

PERISHABLE
No. 955

WATCH SHIPPING INSTRUCTIONS
No. 966

DON'T CRUSH
No. 946

HANDLE WITH CARE
No. 956

BILL IN
No. 967

FRAGILE
No. 947

SPECIAL HANDLING
No. 957

KEEP AWAY FROM HEAT
No. 968

C.O.D.
No. 948

FIRST CLASS MAIL
No. 958

INFLAMMABLE
No. 969

SPECIAL
No. 949

TO-DAY
No. 959

KEEP FROM FREEZING
No. 970

FRAGILE
LIQUID
No. 950

SPECIAL
No. 960

KEEP DRY
No. 971

WILL CALL
No. 951

FUTURE
No. 961

SAMPLE
No. 972

Nos. 937–938
1000—$1.00
5000—$ .75 per M

ENCLOSURE
No. 936
Embossed—$1.00 per M

VIA AIR MAIL
No. 937

No. 938

AIR EXPRESS

VIA AIR MAIL
No. 939

Nos. 939–940
1000—$1.50
5000—$1.00 per M

AIR MAIL
No. 940

REGISTERED MAIL
No. 941

Nos. 941–942
60c per thousand

Special Delivery
No. 942

CUT SINGLE IF PREFERRED . ASSORTED TITLES AT QUANTITY PRICES

Ever Ready STOCK CAUTION LABELS





RAILWAY EXPRESS PROMOTES SPEED AND SAFETY WITH LABELS

The advertisement to the right is one of a series now in national use by the Railway Express Agency. In such magazines as The Saturday Evening Post, the Railway Express Agency is telling shippers of the vast importance attached to the use and observance of the proper labels on shipments.



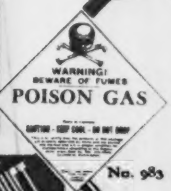










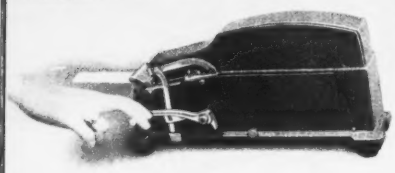




The labels above are indicative of the types of *Special Caution Labels* that we have made. There are certain lines of business that require such specialized labels to insure the proper handling of their products in transit. Consult us regarding your specific requirements.

Ever Ready Gummed Tape-

COMBINATION No. 1—*Automatic Sealer No. 10*



An innovation in gummed tape moistening. Has fine lines. One stroke cuts and moistens tape. Length can be varied. Pressure plate and brush principle assure perfect moistening surface. Takes tapes from ½" to 1½" wide.

Finish: Silver crackle with nickeled parts. Price: **$17.50**

Fifty rolls, 1¼", 35-lb. tape, 500 ft. to roll, printed one color, at 48c per roll . . . . . Total **$24.00**

Total retail value **$41.50**

COMBINATION "DEAL" PRICE **$35.00**

COMBINATION No. 2—*Packer Sealer No. 30*

Counterboy Product. Durable, efficient machine for 2" or 3" tape. Used by large



mail order shippers throughout the country—proving its efficiency. Cuts and moistens tape to varied lengths.

Price: **$20.00**

25 rolls, 3", 60-lb. tape, 600 ft. to roll, printed in two colors, at $1.25 per roll . . . . . Total **$31.25**

Total retail value **$51.25**

COMBINATION "DEAL" PRICE **$45.00**

COMBINATION No. 8
Express Sealer No. 1½



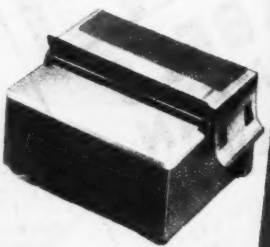
Has same construction and features as Express No. 3. Recommended for counter use. Price **$3.50**

16 rolls, 1", 35-lb. tape, 500 ft. to roll, either orange, grey, blue or yellow kraft, printed in one color, at 80c per roll . . . . . Total **$12.80**

Total retail value **$16.30**

COMBINATION "DEAL" PRICE **$12.50**

COMBINATION No. 9
Labeler



Brush principle—assures even application of moisture. Large water reservoir eliminates constant filling. Special pressure plate construction permits one hand operation.

3½" moistening width . . . . . Price **$4.00**

5½" moistening width . . . . . Price **6.00**

7½" moistening width . . . . . Price **8.00**

You may deduct 33⅓% from these prices when purchasing any of the above labelers in conjunction with labels amounting to $5.00 or more.

Ever Ready's NEW Moistener

AFTER 10 YEARS OF EXPERIMENTING
Ever Ready Recommends a Sanitary Moistener

UNLIMITED USES FOR THIS REMARKABLE NEW MOISTENER

1 **MOISTENING POSTAGE STAMPS** is made easy—gives an even moistening.

2 **MOISTENING LABELS** now means moistening evenly and helping adhesion.

3 **SEALING ENVELOPES**—Speeding up the sealing of envelopes is no small part of the new moistener's work.



A Self-Cleaning Moistener

Moistening surface is velour—self-washing—retaining no dirt—won't congeal. It is clean . . . looks clean . . . stays clean. A neat aluminum cap prevents evaporation—one filling of water lasts a long time.

GUMMED SEALING TAPE

Owing to fluctuations of the gummed kraft sealing tape prices, we find it impossible to list more than a few tape prices. We solicit the opportunity of quoting on your requirements not covered on these pages.

Bear in mind, please, that Ever Ready offers plain and printed tape in all sizes and colors.

All machines listed under "Deals" may be purchased separately at prices quoted.

Sealing Machines and Moisteners

COMBINATION No. 3— *Jiffy Automatic Taper*

Combines simplicity and sturdiness in modern finish. Holds tape from ½" to 1½". Lengths from 2" to 6".

Finish: Green, Bronze or Silver.



Price: $15.00

25 rolls 1", 1¼" or 1½", 35-lb. tape, 500 ft. to roll, printed one color, at 60c per roll . . . . . Total $15.00

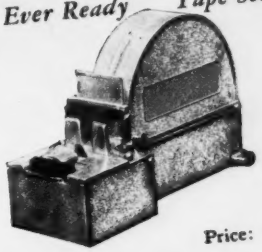
5 rolls of plain tape, above widths, at 30c per roll . . . . . Total $1.50

Total retail value $31.50

COMBINATION "DEAL" PRICE $25.00

COMBINATION No. 4— *Ever Ready Tape Sealer*

Simple tape moistening device has special patented dry-tab feature enabling operator to withdraw tape, moisten, cut and apply to package without fingers coming in contact with wet side of tape.



Price: $15.00

Finish: Polished aluminum.

50 rolls of 1½", 35-lb. tape, 500 ft. to roll, printed one color, at 55c per roll . . . . . Total $27.50

Total retail value $42.50

COMBINATION "DEAL" PRICE $36.25

35c

No fuss—No muss
A Jiffy Moistener



For Use In Every Home and Business

The new Ever Ready Moistener belongs on every desk where stamps, labels and envelopes are used. Handy to Hold—Handy to Use.



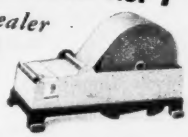
Ever Ready Moistener

Made of glass, with velour moistening surface and aluminum cap. By Appearance suited for Executive's desk.

FOR SALE AT STATIONERS, PRINTERS, OFFICE SUPPLY DEALERS

COMBINATION No. 7

Express Sealer No. 3



New type of hand-pull machine.

Simple loading, with *no* adjustment gadgets. Very attractive. Streamline design. Works on efficient brush-moistening method.

Price: $5.00

10 rolls, 3", 60-lb. tape, 600 ft. to roll, plain grey, orange or blue kraft, at 75c per roll

or

15 rolls, 2" tape, in any of above colors, 50c per roll

Total $7.50

Total retail value . . $12.50

COMBINATION "DEAL" PRICE . $10.00

COMBINATION No. 6

Sealrite No. 2

Same features as Sealrite No. 322, width capacity 2".



Price: $3.50

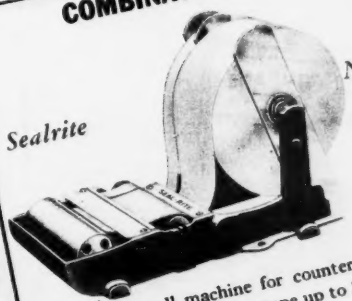
20 rolls, 1½", 35-lb. or 30 rolls 1" plain tape, 500 ft. to roll . . . . . Total $5.00

Total retail value $8.50

COMBINATION "DEAL" PRICE $6.00

COMBINATION No. 5

Sealrite No. 322



Simple hand-pull machine for counter or shipping room use. Takes any width tape up to 3". Has brass roller attachment.

Price: $5.00

Finish: Grey enamel.

16 rolls, 1", 35-lb. tape, 500 ft. to roll, printed one color, at 60c per roll . . . . . Total $9.60

5 rolls, 1" plain tape at 20c per roll . . Total $1.00

$15.60

Total retail value $11.75

COMBINATION "DEAL" PRICE . . .

. . . *when ordering* . . .

When ordering one of the Combination "Deals," be sure to specify the following:

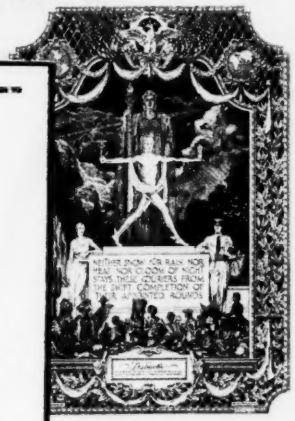
a—number of the deal
b—copy for printing (where printed tape is specified)
c—width of tape (where there is a choice)
d—color of tape (where there is a choice)

All prices quoted subject to any tax imposed by the government. We will gladly send any machine on a one-week approval basis to any firm rated in Duns and Bradstreets.

U.S. POST OFFICE

THIS letter of approval from the United States Post Office Department covers the correctness of form of Ever Ready Labels. These shipping labels are the proper Post Office approved forms for parcel post shipments. We suggest that you see your local postmaster if you are considering the use of any other arrangement. He will advise you properly. Remember—the Post Office is willing and anxious to cooperate thoroughly with you on matters that will speed up your mailing service.





Post Office Department
THIRD ASSISTANT POSTMASTER GENERAL
Washington

90877

March 14, 1935.

Mr. Sidney Hollaender,
Ever Ready Label Corporation,
257 West 17th Street,
New York, N. Y.

My dear Sir:

With reference to your call today at the Department, submitting a copy of the matter which the Ever Ready Label Corporation intends to insert in its forthcoming catalog, showing a number of address labels printed by that Corporation, you are advised that the labels reproduced on the sheet numbered from 157 to 170, inclusive, are in harmony with the provisions of the postal laws and regulations governing the preparation of address labels and, therefore, parcels bearing such address labels otherwise conforming to the requirements of the postal laws and regulations are acceptable.

It is understood that label No. 165 is to be placed on parcels in connection with the return card of the sender.

Very truly yours,

CAZ/r

Third Assistant Postmaster General

No. 157 A

BETHLEHEM STEEL CORP.
25 BROADWAY, NEW YORK, N. Y.
RETURN AND FORWARDING POSTAGE GUARANTEED

No. 158 A

THREE IN ONE OIL CO.
30 VARICK ST. NEW YORK, N. Y.
RETURN POSTAGE GUARANTEED

No. 159 A

CONTENTS: MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary.
FROM
National Distillers Prods. Corp.
120 BROADWAY NEW YORK, N. Y.
RETURN POSTAGE GUARANTEED

No. 160 A

THE NESTLE-LEMUR COMPANY
10 EAST 49th ST. NEW YORK, N. Y.

No. 161 A

CONTENTS: MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary.
W. C. STRIPLING
FORT WORTH, TEXAS
RETURN POSTAGE GUARANTEED

No. 162 A

Be Your Thought"

FRAGILE

POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY.
NEW HAVEN CLOCK CO.
NEW HAVEN CONNECTICUT
RETURN POSTAGE GUARANTEED IF UNDELIVERABLE

No. 164 A

National Carbon Company
30 East 42nd Street
New York, N. Y.

No. 163 A

CONTENTS MERCHANDISE
POSTMASTER
DICTAPHONE CORPORATION
BRIDGEPORT, CONN.

No. 166 A

CONTENTS—MERCHANDISE
Postmaster:
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
RETURN POSTAGE GUARANTEED

No. 165 A Actual Size

NATIONAL DAIRY PRODUCTS
120 BROADWAY
New York, N. Y.
U. S. POSTAGE PAID
New York, N. Y.
Permit No. 9320

No. 169 A

All labels are illustrated one half actual size except No. 165A

BORDEN COMPANY
350 MADISON AVENUE
New York, N. Y.

No. 168 A

from THE BAYER COMPANY
170 Varick St. New York

CONTENTS MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary.
RETURN POSTAGE GUARANTEED

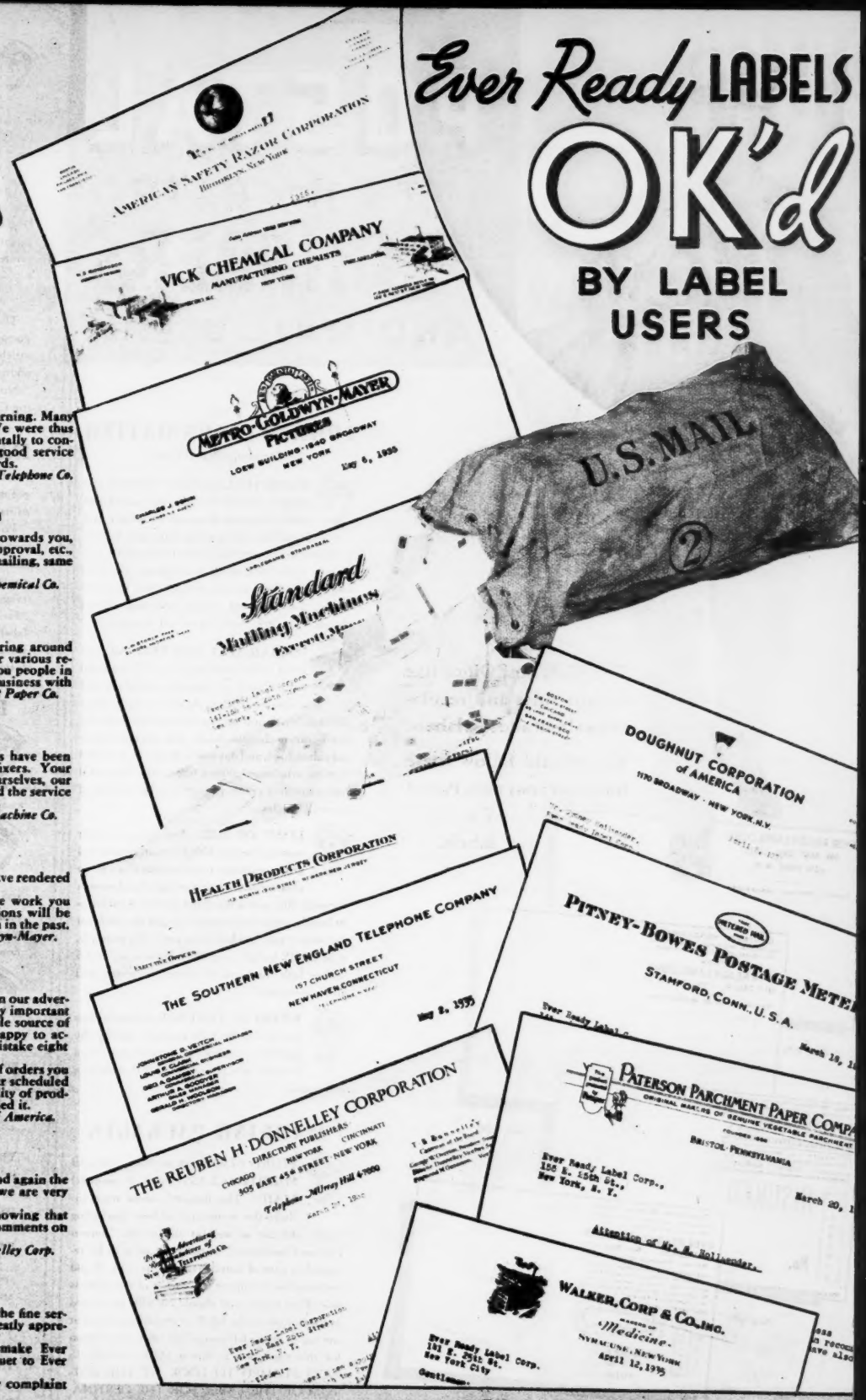
No. 170 A

from MERCK & CO.
Rahway, N. J.
Postmaster: Return if not delivered
Return postage guaranteed
for

XUM

Pertinent Paragraphs

Ever Ready LABELS OK'd BY LABEL USERS



¶ .. promises not "mere idle words"

Both packages arrived promptly this morning. Many thanks for the "Ever Ready" service. We were thus able to satisfy our customer and, incidentally to convince ourselves that your promises of good service and co-operation are not mere idle words.

Southern New England Telephone Co.

¶ .. more business—best recommendation

The best way we can show our feeling towards you, that is whether your service meets our approval, etc., is to send you another order for sample mailing, same design as the first lot of 250,000.

Vick Chemical Co.

¶ .. twelve years of continuous patronage

After spending several years of floundering around trying to find a label that would suit our various requirements, we were recommended to you people in 1923 and have been doing satisfactory business with you ever since. *Paterson Parchment Paper Co.*

¶ .. little labels close big deals

Several millions of your stickers in rolls have been used in demonstrating our Stamp Affixers. Your product has met with the approval of ourselves, our agents, and the users of our machines, and the service rendered has been very satisfactory.

Standard Mailing Machine Co.

¶ .. highly pleased with the work

We appreciate the excellent service you have rendered us.

We have been highly pleased with the work you have turned out and hope that our relations will be as amicable in the future as they have been in the past.

Metro-Goldwyn-Mayer.

¶ .. A dependable Source of Supply

Printed labels play a very important part in our advertising service to us from the outset to select a dependable source of supply for our labels and we are very happy to acknowledge at this time that we made no mistake eight years ago.

In every one of the countless hundreds of orders you executed for us, in less than half the regular scheduled time, we were impressed by the high quality of product and intelligent service that accompanied it.

Doughnut Corporation of America.

¶ .. Favorable Comments on our Labels

We need a new supply of mailing labels and again the order is being placed with you because we are very satisfied with our labels and your service.

You will probably be interested in knowing that we have received a number of favorable comments on the appearance of our labels.

The Reuben H. Donnelley Corp.

¶ .. Don't Remember One Single Complaint

The excellent quality of your labels and the fine service your organization has given us is greatly appreciated.

We make Ever Ready Razors—You make Ever Ready Labels. Ever Ready hands a bouquet to Ever Ready.

I don't remember one single cause for complaint as to quality or service.

American Safety Razor Corp.

¶ .. Office Girls and Shipping Clerks Enthusiastic

Your labels are by far the best labels we have ever had, as regards appearance, texture, perforations, etc. Office girls and shipping clerks are both enthusiastic over them; hence this word of appreciation for the splendid work you did. *Walker, Corp. & Co., Inc.*

¶ .. Research wins yearly contract

Having just contracted for our annual requirements we take this occasion to express our hearty appreciation of the service you have rendered, particularly in developing materials best suited to our individual requirements. Your ability and desire to render service has always materially influenced our negotiations with you.

Pitney-Bowes Postage Meter Co.

¶ .. We Select Good Suppliers . . .

Our turnover of employees and suppliers is probably as low as any manufacturer in the country. The reason for this is simply that we select good employees from the beginning . . . and good suppliers too.

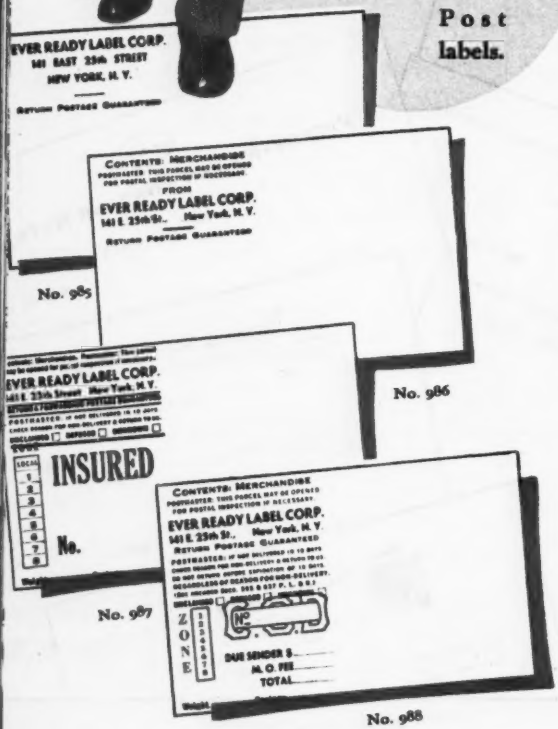
Our continuous purchases for nine years from you is not exceptional, but indicates our original choice in our label supplier was wisely made.

Health Products Corporation.

POSTAL INFORMATION FOR SHIPPERS AND MAIL USERS



The U. S. Post Office has certain rules and regulations about address labels. You should follow these forms on your own Parcel Post labels.



FOURTH CLASS MATTER

(Domestic Parcel Post)

FOURTH-CLASS MATTER embraces what is known as domestic parcel-post mail exceeding 8 ounces in weight and includes merchandise, farm and factory products, seeds, cuttings, bulbs, roots, scions and plants, books (including catalogues), circulars and other printed matter, and all other mailable matter not embraced in the first and second classes. (Sec. 569, Postal Laws and Regulations.)

UNMAILABLE MATTER. All matter is unmailable which is of a harmful nature, such as poisons; explosives and corrosive articles; matches, except safety matches (strike only on box variety); live animals, fowls (except day-old chicks, day-old geese, day-old guinea fowl, and day-old turkeys), insects, and reptiles; articles exhaling a bad odor. The postal laws provide a severe penalty for the mailing of harmful articles.

LIMIT OF SIZE. Parcel-post matter may not exceed 100 inches in length and girth combined. In measuring a parcel the greatest distance in a straight line between the ends (but not around the parcel) is taken as its length, while the distance around the parcel at its thickest part is taken as its girth. For example, a parcel 35 inches long, 10 inches wide, and 5 inches high measures 65 inches in length and girth combined.

RATES OF POSTAGE on fourth-class matter—to be fully prepaid—are by the pound, according to distance or zone, a fraction of a pound being computed as a full pound.

MARKING PACKAGES

THIRD CLASS (up to 8 ounces) and FOURTH CLASS (over 8 ounces) MAIL. The shipper's name must include the name and address (including street address) as well as the words "Return Postage Guaranteed" if the package is to be returned in case of non-delivery. This copy should be placed in the upper left corner of the address side. Your return card should NEVER be printed at the bottom of the label—it should always be at the top or at the left end of the label. The reason for this regulation is that a MAIL CLERK IS ACCUSTOMED TO LOOK AT THE BOTTOM OF THE LABEL FOR THE DESTINATION OF THE PACKAGE. A package with a label having the sender's card printed at the bottom is apt to be returned to the city from which it was mailed.

Approved Postal Forms 985-986-987-988 are obtainable in any size to meet your requirements.

SEALED PACKAGES. To send sealed packages at parcel post rates—the package must bear a label with the following clause *printed* on it.

Contents—Merchandise
POSTMASTER: This parcel may be opened for postal inspection if necessary.
Return Postage Guaranteed.

This clause must be *printed*—it cannot be written or typewritten on the label. When buying labels intended for use on parcel post shipments, be sure to have this clause included as part of the printed copy.

C. O. D. MAIL

The sender of a mailable package on which the postage is fully prepaid may have the price of the article and the charges thereon collected from the addressee.

No. 988 illustrates the prescribed form for marking C.O.D. mail. C. O. D. insignia must be red.

INSURANCE REGULATION

A Mailable parcel on which the postage is fully prepaid may be insured against loss in the amount of its actual value at the prescribed rate.

Postal Authorities and the insurance companies insuring parcel post shipments, request that nothing be printed on a label to indicate the contents of the package when such information might tempt a person to steal. For Example: "Fresh Flowers" might be printed on a florist's label but "Diamonds, Watches and Jewelry" should not be printed on a jeweler's label. Insured insignia must be red.

DOMESTIC AIR MAIL

RATES. The rate of postage on air mail is 6 cents for the first ounce and 6 cents for each additional ounce or fraction of an ounce. This is a recent ruling and marks a considerable decrease over former rates.

MAILABLE MATTER. Any mailable matter except that liable to damage from freezing may be sent by air mail. Parcels may not exceed 70 pounds in weight and 100 inches in length and girth combined. The prohibition against acceptance of articles liable to damage from freezing does not include cut flowers.

MARKINGS. Air mail should be conspicuously indorsed "VIA AIR MAIL" in the space immediately below the stamps, above the address. Ever Ready "Air Mail" stickers on Page 40 have been found most advantageous for marking mail for Air Delivery.

SPECIAL DELIVERY

(Parcel Post)

Third and Fourth Class Mail matter for delivery in U.S.A. on which the proper Special Delivery fee is prepaid in addition to regular postage, will receive the same handling and transportation as is accorded First Class Mail, in addition to immediate delivery at the office of destination.

Shippers are requested to display prominently special delivery label, particularly when regular and not special delivery postage is used.

SPECIAL HANDLING

Fourth Class Matter only on which the proper special handling fee is prepaid in addition to regular postage will receive the most expeditious handling and transportation possible but does not entitle the parcel to special delivery upon arrival at the office of destination.

PRINTED BY THE CUNEO PRESS, INC., CHICAGO



Ever Ready's Complete Label Service Considers Your Special Needs

Every business has, in addition to its regular products, at least one or more specialties—by-products of specialized machinery and ability.

Ever Ready produces a great many such specialties, along with the regular products mentioned on the foregoing pages.

★

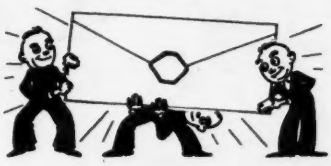
COLORED GUMMED OR UNGUMMED PAPERS—may be used on any label requirement in place of white at slight added cost.

Colored labels have unusual advantages in many specific instances. Colors available: RED, BLACK, LEMON YELLOW, GOLDENROD, BLUE, GREEN, ORANGE, PINK, SALMON, BROWN, BUFF, GREY.

★

GUMMED OR UNGUMMED SILVER AND GOLD PAPERS—give a rich appearance to packed merchandise. When used for labels, stickers or seals, gold or silver papers lend that "tone" so important to the success of your package or any message you deliver. We will gladly send a Sampler Package.

★



GUMMED GLASSINE OR TRANSPARENT PAPERS—The Post Office Department has accepted glassine seals as a substitute for the old-fashioned wax seals on registered mail. Ever Ready produces a great number of these glassine seals for Banks, Insurance companies and other registered mail users. Glassine paper has other uses, such as stamp hinges, seals for spouts on salt containers, etc.

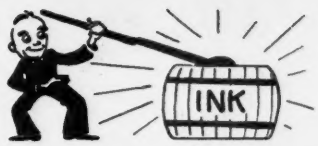
★

GREASEPROOF PARCHMENT PAPERS—available for use on food products, on bakery goods, meats, provisions, etc.

★



GUMMED CLOTH AND HOLLANDS—gladly furnished by Ever Ready for special binding needs. Write for samples and prices.



SPECIAL INKS—it is a very simple matter for Ever Ready to *match* the color of any printing job. Special grades of inks to meet unusual requirements are yours to command.

★

STRIP GUMMED PAPERS—may be handily converted into gummed-end labels for tipping on forms, or banding on merchandise—also for use on letterheads, billheads, yarns, etc.

★

GUMMED FACE LABELS—Labels for use on windshields, store-fronts, etc., are made by Ever Ready on special paper. The message is printed on the gummed side.

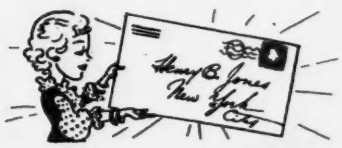
★

NUMBERING AND VARNISHING—Ever Ready offers complete facilities for numbering labels either gummed or ungummed—for varnishing labels in accordance with your needs.

★

PUNCH HOLE LABELS—Ever Ready offers complete facilities for furnishing special punched labels to be used on Counterboy, Sep-A-Label Machine attachment, and for addressograph machines.

★



POSTAGE METER TAPE—Ever Ready supplies the necessary tape for Postage Meter Machines—accurately cut and laterally serrated—a problem we solved for Pitney Bowes Postage Meter Co.

★

CHAIN STORE SUPPLIERS LABELS—Chain store mass-production suppliers will find at Ever Ready complete facilities for furnishing pre-addressed labels on rolls.

★

PRICE STICKERS—Every year Ever Ready produces some 300,000,000 gummed price stickers for America's largest group of chain department stores. Each label is made with a special notch to fit a price imprinting machine. This is another of Ever Ready's specialized jobs.

FLEISCHMANN YEAST LABELS—here again we have a problem of machine application where a small label was required equipped with a series of punch holes to register with the machinery. The label is a familiar design to everyone. Ever Ready has produced this in a roll form, suitable for the rapid application required in this tremendous volume production.

★



DUPLICATE COPY ADDRESS LABELS—A national organization, some years ago offered in their radio broadcast a complimentary edition of Sherlock Holmes Mystery Stories. To facilitate the handling of the numerous requests, Ever Ready supplied a perforated roll label interwound with a duplicate and a one-time carbon, making possible the typing of a duplicate and permanent record of prospects for future follow-up. This set up enabled the organization to speedily respond to requests and yet have the necessary data in their file for future reference.

★

MANILA AND KRAFT PAPERS—a complete assortment of gummed and strip-gummed papers is offered for specialized uses. Gives extra strength and adhesion.

★

CARDBOARD WRAPPERS FOR GEM RAZOR BLADES—This item is made of cardboard printed with a pertinent message and prepared in continuous rolls equipped with a punch hole arrangement enabling the wrapper to be applied to the razor on an automatic feeding machine. The punch holes and the width of the protective wrapper must be accurate to properly register on this machine and with Ever Ready's specialized equipment, we are in a position to furnish this form at an amazingly low cost.

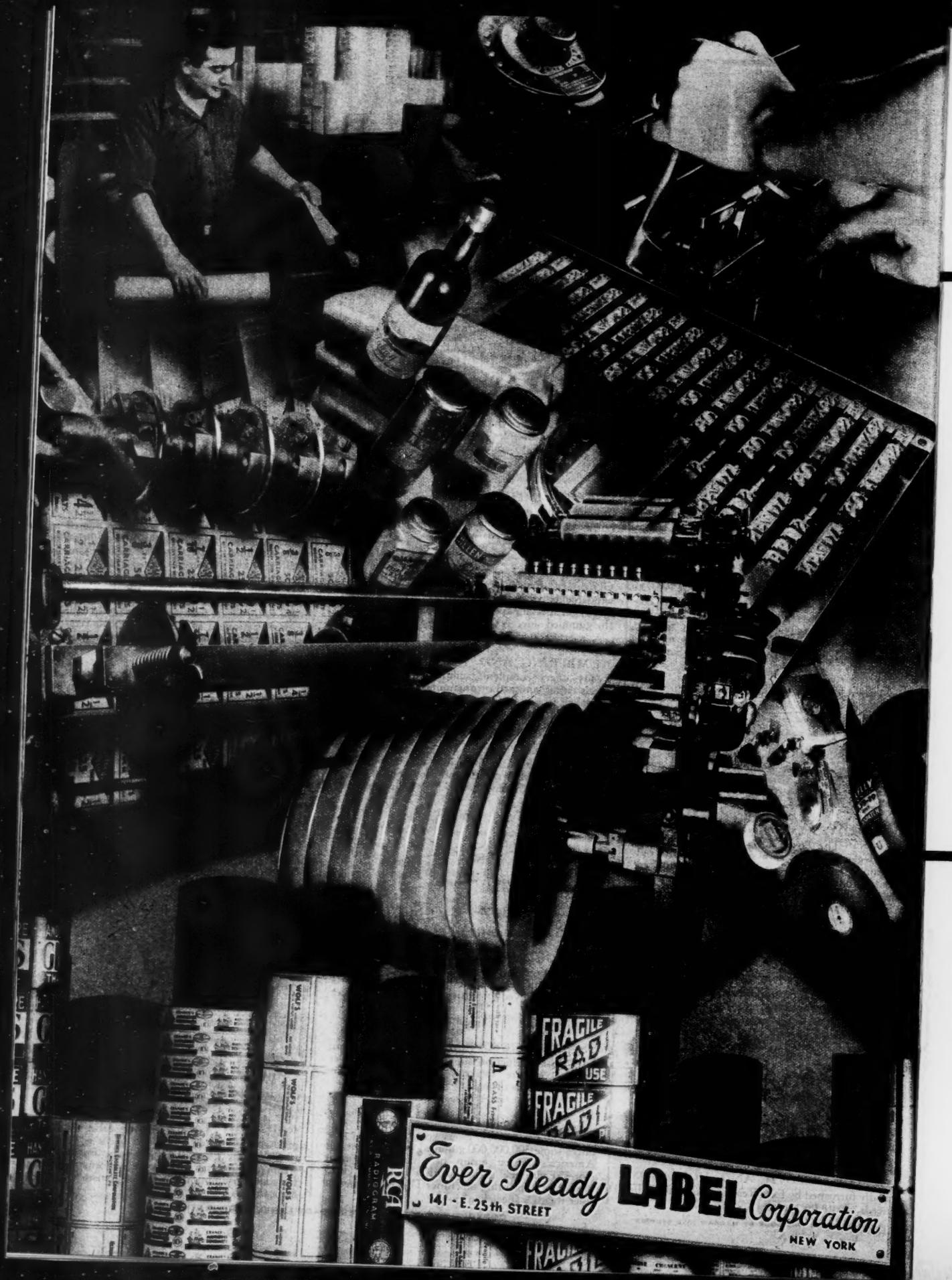
★



RAILROAD TAPE—Among other unusual products for highly specialized needs is this tape furnished by Ever Ready in rolls, for charting steam and electric locomotive performance, and for coal consumption records—a statistical service for railroads.

PHOTOGRAPHY IN THIS BOOK BY McGRAW HILL STUDIOS

COPYRIGHTED 1935 BY EVER READY LABEL CORPORATION, N.Y.C.


FRAGILE
FRAGILE
RCA
Ever Ready LABEL Corporation
141 - E. 25th STREET
NEW YORK



THIS IS JUST AN IDEA

Even in a catalog section of this size it is impossible to show the full scope of Ever Ready's facilities. May we suggest, as a general rule to be followed in all instances, that you instruct your secretary to refer all your requirements to EVER READY for quotations, advice or consultation.

XUM

HERE IS THE ADDRESS OF LABEL HEADQUARTERS:

Ever Ready LABEL CORPORATION

141 EAST 25th STREET
NEW YORK

IN NEW YORK, PHONE
MUrray Hill 4 - 4300

PACK

XUM

NATIONAL LABEL DESIGNING EXPERIENCE COVERS EVERY PACKAGING FIELD . . . .

Our broad experience, producing literally thousands of different labels for hundreds of varied types of products, has equipped us with the experience necessary to aid you, constructively, in planning your new labels.

Our unmatched facilities, for the economical production of both printed and lithographed labels of every description, have won us the patronage of hundreds of America's leading packagers.

Let us prove to you, concretely, in terms of your own problem, that our experience and facilities can combine to produce a saving for you . . . in terms of a better product at lower cost and with no attendant troubles.

THE NATIONAL COLOR PRINTING COMPANY, INC.

EXECUTIVE OFFICES AND PLANT
930 EAST MONUMENT ST., BALTIMORE, MARYLAND

SALES OFFICES
BALTIMORE, NEW YORK, CHICAGO, BOSTON

PACKAGE INSERTS

by ROBERT R. BROWN

PACKAGE ADVERTISING may be defined as that form of consumer selling or promotion which utilizes the retail package as the medium or vehicle for carrying the message. It may have for its purpose any one or all three of the following objectives: (1) Keeping customers sold on the product. This objective is most commonly attained by utilizing the package literature to give complete and detailed instruction for the use of the product. In addition, this objective is attained by using the package literature to constantly remind the customer of the unique sales points of the product or its individual institutional story. (2) The second use for package advertising is to build volume through variety of usage. More often than not, a product has other uses than the one for which it is commonly bought and it is in this particular that package advertising is especially adaptable for inducing a customer to try other uses. A new use is a new customer in any merchandising language. (3) The third main objective for the use of package advertising, is for *cross-advertising* purposes. This consists of calling the attention of a customer of one product to other products by means of package advertising.

Under any one of the three headings mentioned above, package advertising may utilize recipes, sampling coupons, premium offers, testimonials, illustrated instructions, lists of uses, booklet offers, prize contests, proof-of-purchase coupons, institutional stories, etc.

In general a package insert may be defined as a piece of advertising literature which is made to accompany a product by means of some form of insertion. The various classifications of inserts are as follows:

1. *Co-Product Inserts.* In this form of insert, the printed literature is inserted in with the actual product. It usually is placed on top of the merchandise as a last operation before closing the package. It can be inserted by hand or automatically by special insertion machinery. Due to acid reaction of inks, certain non-poisonous vegetable compounds should be used if the product requires. Government regulations are strict and specific in this regard. Usually single leaf inserts are used, due do the fact that with finer products such as flour, etc., a folded insert will bring out considerable of the product when the insert is removed. Specially oil treated papers are used with oily products such as canned sardines, shoe polish, etc.

2. *Inner-Carton Inserts.* These are inserts which are inserted inside of the protective carton along the side of the bottle or jar. They can be inserted by hand or special inserting machinery. They are removed after the bottle or jar has been taken out. Due to the fact that they usually cannot be seen unless the carton is examined after the bottle or jar has been removed, such inserts are often made inexpensively to allow for a high percentage of waste.

3. *Over-End Inserts.* This form is inserted over the end of the cartoned jar, tube or bottle to make more certain of it not being overlooked when the carton is opened. This requires a longer form of insert, a narrow multiple fold and breaking the insert over the end of the container. They can be inserted either by hand or special inserting machinery at a high rate of speed. Removal from the carton and its being seen is insured by this method with the exception of the cases where the container opens at both ends and is removed through the bottom of the carton rather than the top.

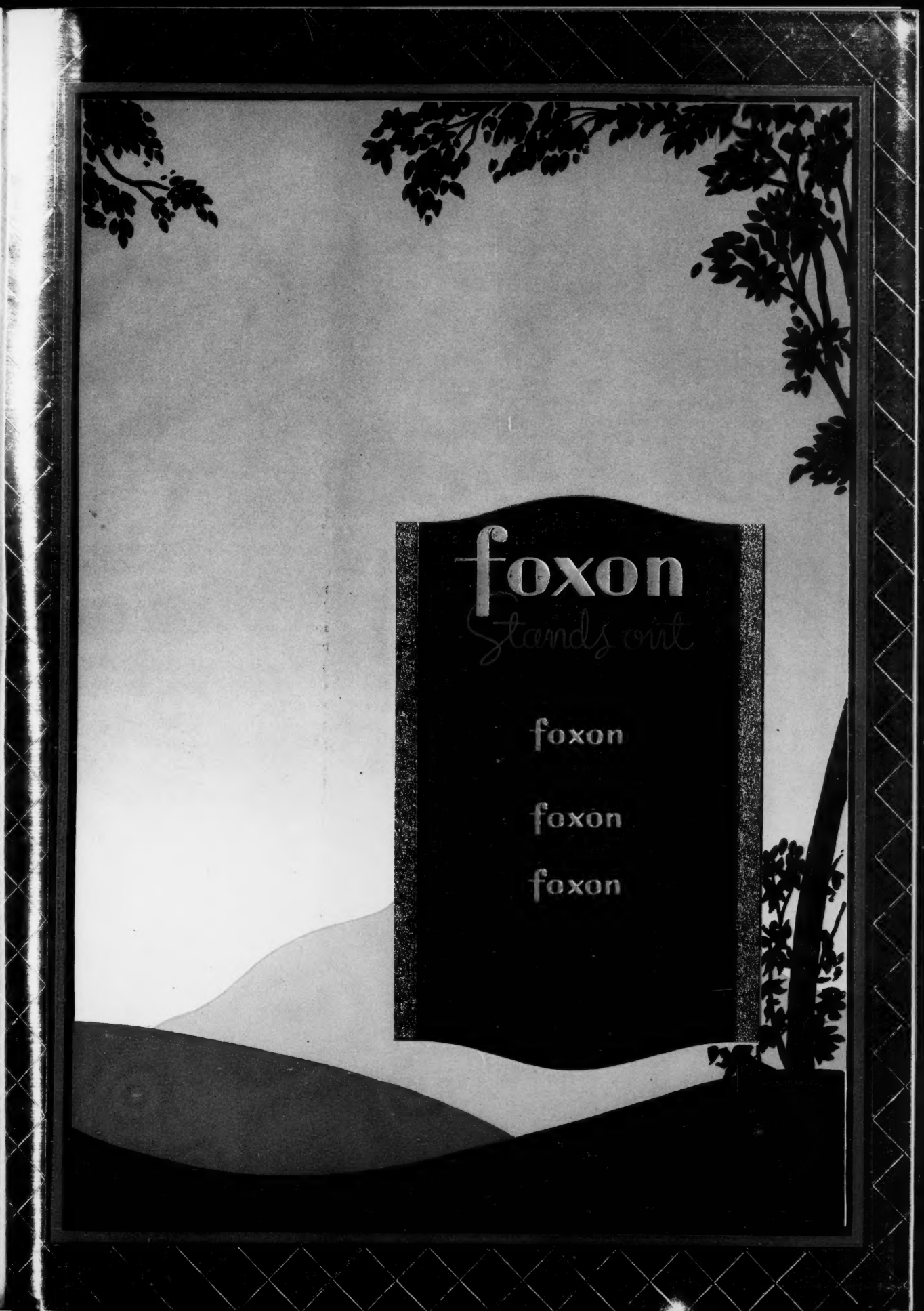
4. *Banded Inserts.* A banded insert is one which is confined to an un-cartoned container by means of bands consisting of various materials. The most used band is the rubber band. This is strictly a hand application operation. The rubber band is likely to roll off in handling and is subject to deterioration which besides losing the insert marks the age of the product. Other banding materials are kraft paper and transparent cellulose. This operation is usually done by hand, although special automatic machinery can be built. The most notable example of a banded insert is to be found on the Three-In-One Oil can. The transparent cellulose band is often used for label protection as well.

5. *Under-Label Inserts.* This form is carried by means of inserting the folder under the label. It can be done by hand or by means of specially built automatic machinery. In some cases the label portion holding the insert is left unglued in order to allow removal of the folder. There is danger, however, of the folder slipping out in handling. To overcome this the folder or the label is spot glued which requires that the label be torn in order to remove the insert. The most notable examples of these two forms of under-label inserts are on the Certo bottle and Carbona.

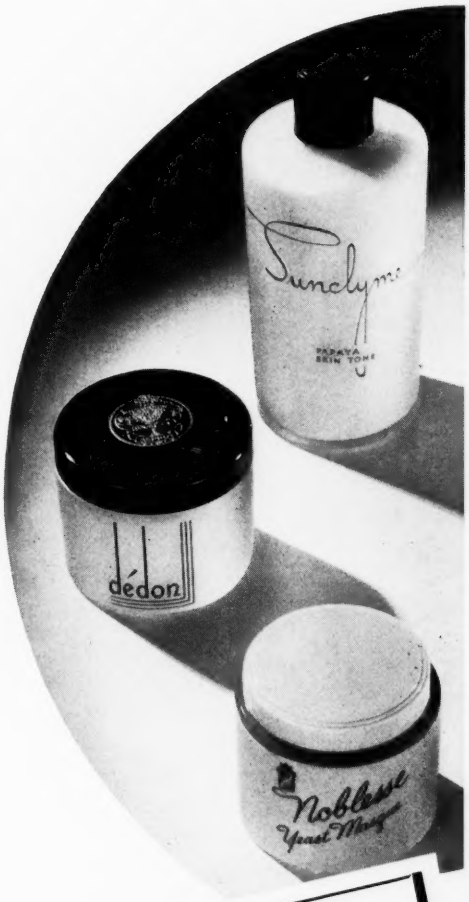
6. *Envelope Inserts.* In this case a separate envelope is labeled to the back of the container by hand or labeling machinery and the folded insert is placed in the envelope by hand. The oldest example of this form of package advertising is that of the Feen-a-mint bottle. The main drawbacks of this form are the bulkiness of the combined envelope and insert and the inaccuracy of spot labeling at high production speed. Its commendable point is to be found in the envelope serving as a container for reinsertion after the insert is read.

For purposes of package advertising the surface of the container is often utilized to do the entire package advertising job. Particularly is this true of tin containers such as types used for fruits and vegetables and the types used for insecticides. These containers give a large

XUM


foxon
Stands out
foxon
foxon
foxon

It isn't the LABEL you want to display...
IT'S THE LETTERING ON IT!



Perfect Application on FLINT GLASS

OPAL JAR

Colt's Air Insulated Feather-weight Container

Because labels have, from time immemorial, been printed on opaque papers, they have become separate design-entities. Yet when you stop to think about it, the most effective label is the one that displays your message against the background of your product.

That is why Engradel Transparent Labels have proved so successful in giving an air of distinction to the many products they adorn .. and in producing phenomenal display and sales results. Their beauty, their economy and the sound logic behind them, makes your best bet in package decoration an

ECONOMY INSTANCE:
One size of label for an entire package range.

ENGRADEL
TRADE MARK
U. S. PATENT NO. 1803836
TRANSPARENT LABEL

Engradel Transparent Labels (fully protected by patents) fasten themselves tenaciously to *any* surface. They can be easily cleaned and kept clean.

Write for complete information, samples and prices.

ECONOMY INSTANCE:
Single color uses the product itself to attain two color effects.

PALM, FECHTELER & CO.

15 East 26th St. New York, N. Y. — 5 So. Wabash Ave., Chicago, Ill.

PHILADELPHIA BOSTON BUFFALO CLEVELAND

XUM



Types of package inserts. Rear row: Branded insert with transparent cellulose band, over-end insert, machine applied; collar label, hand applied; inner-carton insert, machine or hand wrapped; Outsert applied to bottle. Front row: neck band insert, applied to bottle; under-label insert, and envelope insert

printing area. For the other types of containers the package advertising job is usually limited to one of the four surfaces.

1. *Front Label.* Although the front area as a means of package advertising formerly was used extensively, the modern trend of simplified design has removed practically everything from the front label except the design elements. One of the most notable present examples of this former practice, is to be found in the label on some of the Squibb products. One way which has been resorted to as a means of meeting both the demand for simplicity in label design and the necessity for package advertising, has been to extend the front label around the two sides of the container. The front area is made to carry the design while the package advertising is placed on the two wings. The all-around label is merely an extension of the idea and is done for the same reasons.

2. *Back Label.* While the front label is usually devoted entirely to label design, the back label is utilized for package advertising purposes. It is usually limited to directions for the use of the product which necessarily must be brief. Occasionally other uses and other products are listed but seldom is there any space for the inclusion of a selling message.

3. *Cap Area.* The top or cap of a container is frequently used for package advertising purposes. Its most usable form is the lithograph metal cap. The most notable example of cap area advertising is to be found on the Best Foods Mayonnaise jar, where various recipes and cross-advertising are placed. Another form used is that of a pasted top label.

4. *Bottom Area.* Particularly in cases of high class cosmetics where the appearance of the container is of extreme importance, the bottom surface of the jar or bottle is utilized for package advertising which usually takes the form of a pasted label but has the disadvantage of the likelihood of its not being seen, although some very good results have been obtained from utilizing this space. The most practical container for utilizing the bottom area is to be found in the sifter-top container, which necessitates the bottom being turned up to view when the product is used.

Under the third classification is to be found those forms of package advertising which consist of separate units

Aggressive PACKAGING *by* "US"

many markets are captured by the PACKAGE *alone . . .*

AGGRESSIVE PACKAGING, as interpreted by "US," is maximum identity and visibility *plus* buying appeal.

Your first step . . . before adopting any brand name . . . consult the "US" TRADE MARK BUREAU at Cincinnati.

Records of every registered trade-name and twice as many unregistered brands . . . nearly a million brand names . . . are instantly available to you . . . to eliminate costly delays, unnecessary expense, and the possibility of infringement.

Next . . . *the vital step* . . . your label or package, designed as if it were your product's *only advertising*. "US" Labels and packages meet the acid test of SALES APPEAL.

For more than a half century, "US" has rendered distinguished service in producing labels, cartons, wrappers, display containers and package inserts. They are "precision-built" to function flawlessly in your packaging machines . . . to give your product commanding visibility and buying urge on the retailer's shelves.

Aggressive Packaging by "US" is modern. Put your problems up to "US."



See **"US" UNIFIED SERVICE** *next page . . .*

The UNITED STATES PRINTING & LITHOGRAPH COMPANY AND DIVISIONS . . . . . .

HOME OFFICE: CINCINNATI, 328 BEECH STREET

SALES AND SERVICE OFFICES:

ATLANTA
BALTIMORE
BOSTON
BROOKLYN
BUFFALO
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
(Dearborn Station)
ERIE, PA.
INDIANAPOLIS
LOS ANGELES
KANSAS CITY
MILWAUKEE
MINNEAPOLIS
NEWPORT, KY.
NEW YORK
PHILADELPHIA
PITTSBURGH
SAN FRANCISCO
SEATTLE
ST. CHARLES, ILL.
ST. LOUIS

★ AMERICAN LITHOGRAPHIC DIVISION
★ ATLANTIC LITHOGRAPHIC & PRINTING DIVISION
★ DONALDSON LITHOGRAPHING DIVISION
★ ERIE LITHOGRAPHING & PRINTING DIVISION
★ PALMER ADVERTISING SERVICE DIVISION
★ W. F. POWERS DIVISION
★ THEO. A. SCHMIDT LITHOGRAPHING DIVISION

XUM

The Economy of Buying UNIFIED SERVICE



CO-ORDINATION at the point-of-sale is the key to volume and turnover. Haphazard, unrelated efforts may produce results, but efforts that are skillfully planned and timed get *better* results.

It is true economy to buy "U S" Unified Service . . . not only in the saving of money, effort and time, but also in the assurance of co-ordinated sales-spot promotion, and better co-operation from retailers.

42 different types of resale-aids. Put your sales-spot requirements up to "U S".

The UNITED STATES PRINTING & LITHOGRAPH COMPANY AND DIVISIONS. . . . . .

HOME OFFICE: 314 BEECH ST. . . . CINCINNATI

SALES AND SERVICE OFFICES:

ATLANTA
BALTIMORE
BOSTON
BROOKLYN
BUFFALO
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
(Dearborn Station)
ERIE, PA.
INDIANAPOLIS
LOS ANGELES
KANSAS CITY
MILWAUKEE
MINNEAPOLIS
NEWPORT, KY.
NEW YORK
PHILADELPHIA
PITTSBURGH
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XUM



Used by all industry for beauty and increased sales

CAMEO
Die Cutting & Engraving Co.
154 W. 14th. Street
New York

Send for Folder "E"



Other types of package inserts. Left to right: Collars for milk bottles, label area folder, top area folder, under-key folder

added to the package for the specific purpose of doing some special package advertising job. The three most widely used forms are:

1. *Collar Band.* This usually takes the form of a single sheet with a die-cut hole. However, Neher-Whitehead & Company of St. Louis have developed a patented form fitting collar which has been used extensively in the dairy field. These reach the dairy sealed together ready to go on the bottles.

2. *Special Banded Label.* This form consists merely of a printed strip of paper or other material which is wrapped around the container or product. Amolin has used their form and The Package Advertising Corporation has developed a special form called Ad-Seal-It which can be applied automatically in bread wrapping machines. It gives an over-lap sealed band around the wrap which carries the consumer message.

3. *Extra Wrap.* This form consists of a secondary wrap around the container which serves primarily to carry package advertising. The best example is to be found in the extra wrap on the Crisco can where the inside surface of the wrap is devoted to recipes.

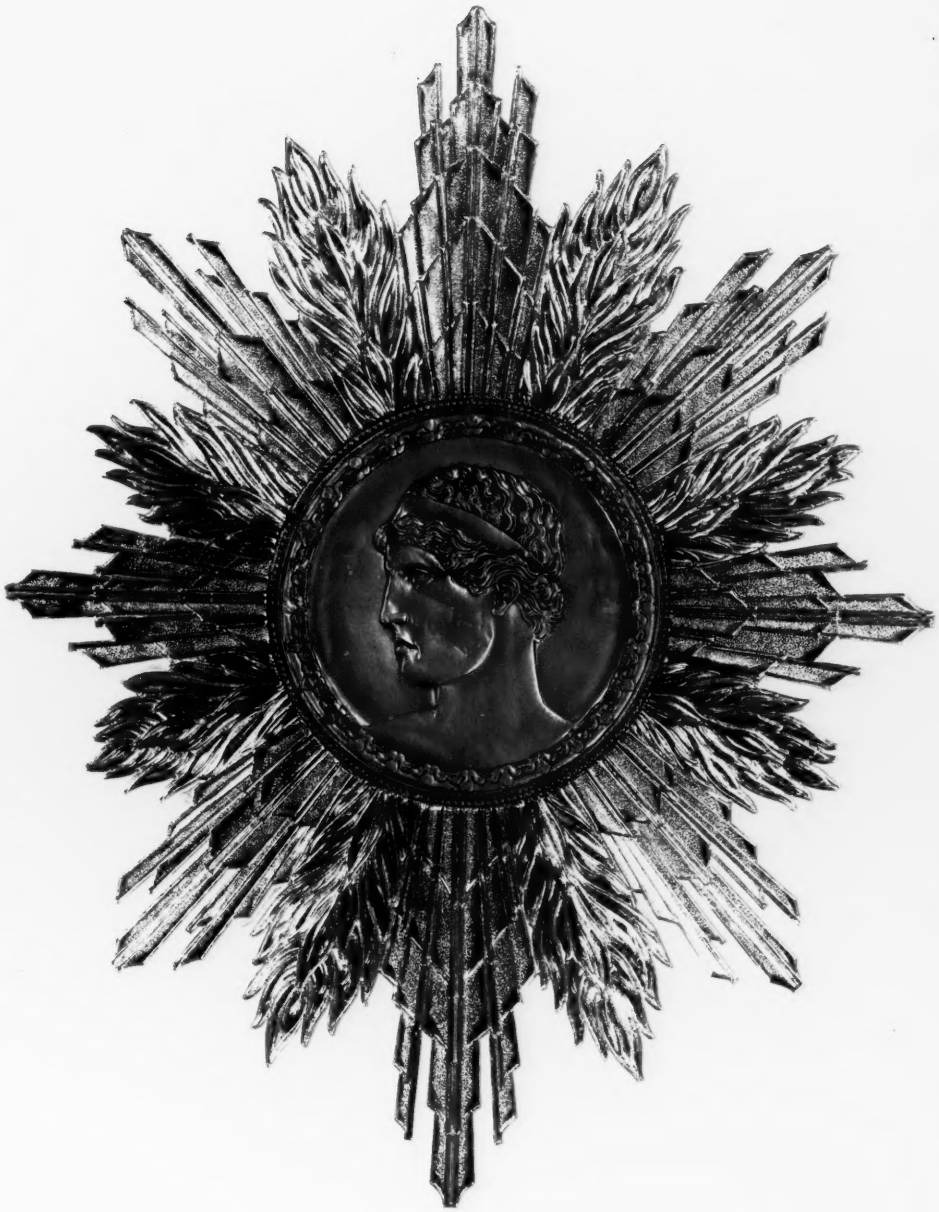
4. *Tag Form.* With this method a string is used through the eyelet of a card, folder or booklet to tie it to the merchandise. This is most commonly done with such utensils as kitchen ware which do not offer opportunity for other means of package advertising. It is a hand operation.

The *Outsert* form is an interiorly sealed folder which is attached to the outside of a bottle, jar or carton by standard labeling methods and equipment. It remains confined in shipment and on the dealer's shelf; yet is readily opened by the consumer. No carton is necessary to carry the literature nor is a band needed to confine it to the container. They remain labeled to the container until such time as the customer has time and is disposed to read them. When opened and removed, a direction label remains permanently on the container. The Outsert views every package as having two sides: the sales side which includes the package design, label, cap and general appearance, and the re-sale which utilizes customers' circulation for package advertising purposes. The Outsert is a patented idea manufactured by Outserts, Inc., and combines all of the advantages of an insert with greater space allowance for the carrying of the product maker's message.



Ad-Seal-It bands for bakery products

A recent development is the perfection of a labeling machine for placing Outserts on the top of tin cans at a speed of 200 per minute and up.



Do Your Box Tops, Wrappers and Labels Say

"QUALITY PRODUCT WITHIN?"

TO ESTABLISH PRE-ACCEPTANCE of the quality product within, this is the primary function of the box top or wrapper. It can create whatever impression you would have it. There is a mood for every product, and as many treatments. What of your product? Is it a superior quality, fitted by design and expert workmanship to sell at a higher price to a discriminating clientele? Then be sure that your box top or label says so. Make it a fore-taste of the glory within. Give it individuality, character, distinctiveness—that indefinable something which will lift it head and shoulders above the inferior imitators and substitutes with which it must compete.

To this end we recommend inlaid gold and silver. The effects we have achieved with this modern method of design are quite remarkable. There seems no limit to the variety and adaptability of the designs which lend themselves to this unique treatment. There is one design ideally suited to your product. Let us help you find it. We willingly place our experience and resourcefulness at your disposal. The finished result will more than justify the effort.

RICHARD · M · KRAUSE · INC

Designers and Producers of Fine Labels and Box Tops
Metal Printed Surfaces

52 EAST 19TH STREET · NEW YORK, N. Y.

✶

Particularly well adapted to the requirements of quality label manufacture is the stock used, Cream and Silver Duplex paper, furnished by courtesy of:

LOUIS DEJONGE & COMPANY
155 SIXTH AVENUE · NEW YORK, N. Y.
BRANCHES: CHICAGO · BOSTON · RICHMOND

Authorized Representatives: D. L. Ward Co., Philadelphia, Pa., Zellerbach Paper Co., Pacific Coast

PACK

XUM

SECTION 8

PLASTICS pages 272–296

PHENOLIC PLASTICS
CAST RESINS
UREA PLASTICS
CELLULOSE ACETATES

REFERENCES

Design Principles	36–52
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PLASTIC CONTAINERS

by E. F. LOUGEE

SYNTHETIC RESINS, aside from the nitrate and acetate group, reached a production in 1935 of more than 100,000,000 lbs., and packaging contributed substantially to the demand which made this increased production possible. Everyone is aware of the whirlwind conquest which plastics have made in closures for glass containers but it is not such common knowledge that plastics made possible the canning of beer and other beverages by providing a chemically stable lining of wax compositions and vinyl resin that did not previously exist. The producer of glass containers who is willing to disregard developments in the synthetic transparent materials has not profited by the experience of his associates in the automobile glazing business. Likewise, the fabricators of fibre containers should be on the alert for new resins which will impart improved properties to their products. Plastics, however, have a far greater potential application to the canning industry in this country than as linings of the common tin-plated containers and the development of new transparent materials will be both interesting and profitable to watch closely.

As this is written there are two of these new transparent materials just beginning production in this country. One is an acrylic and methacrylic ester polymer while the other is a methylmethacrylate material. Both have the transparency of plate glass with less than half its weight. They are available in sheets, rods and tubes of various sizes which may be machined and fabricated like cast resins and at least one of them is available in the form of molding composition suitable for injection molding. It is not difficult to visualize what is likely to happen in the closure field once these materials reach a reasonable degree of acceptance. It will be possible to mold closures with the transparency of glass with none of its dangers of shattering if dropped or given uncommon impact treatment. That doesn't mean that these new materials are unbreakable but they are tough and even if they do break, they leave no sharp splinters nor ragged edges like glass. Nor are they more likely to break than other plastics now in successful use. Once they get started, it will be possible to see the exact condition of the contents of a container without



Molded plastic containers are produced in various shapes, sizes and styles and offer protection, durability and reuse. As may be seen from the few examples, shown, raised decoration, metal appliques, partitions and other effects may be attained. The range of color obtainable in three general groups of molded plastics offers an advantageous selection



I'LL TAKE THIS ONE!

When the average woman goes into your dealer's store to buy, she often enters with an unbiased mind as to which product she will select. Her decision is influenced largely by the design and the color attractiveness of a product or its package. When she says "I'll take this one," you want to be sure that the one she selects is your product.

The wise step which many manufacturers have taken to win her patronage has been the use of General Electric Textolite for molded containers. Textolite is pleasant to the touch. It can be molded into pleasing and distinctive designs. It is available in every possible color combination. The finish of Textolite is smooth and lustrous and easy to keep clean. Textolite is durable.

GENERAL ELECTRIC

Plastics

Appliance and Merchandise Dept., General Electric Company, Bridgeport, Conn.

XUM

I LIKED ALL OF THESE!



Follow the successful merchandising of other manufacturers and have your next container or package molded of Textolite. Textolite dual-use boxes will help increase your sales and influence the average woman's purchase. Our designing facilities are at your service to assist in producing a distinctively designed package for your exclusive use. Let us help you to extra profits.

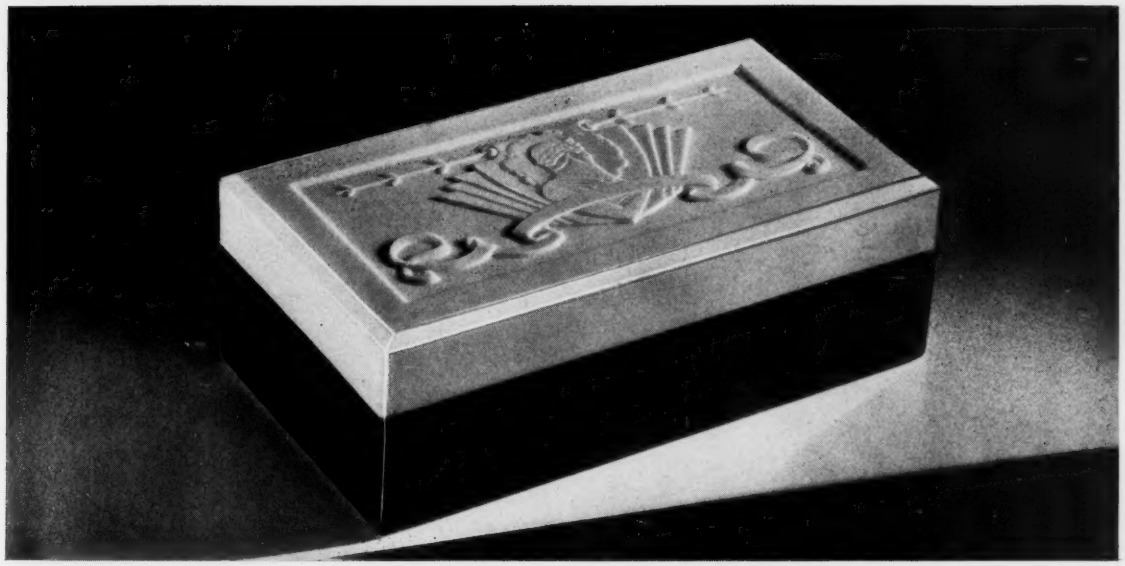
You will find a plastics specialist in the G-E office in New York, Chicago, Detroit, Cleveland, West Lynn, Mass., or Meriden, Conn. Or write to the Appliance and Merchandise Dept., General Electric Company, Bridgeport, Conn.



GENERAL ELECTRIC

Plastics

Appliance and Merchandise Dept., General Electric Company, Bridgeport, Conn.



Stock mold box with slip-on cover. In the illustration shown the cover is of urea and carries a stock design on top, the base being of phenolic resin. This combination may be varied to suit the desires of the customer

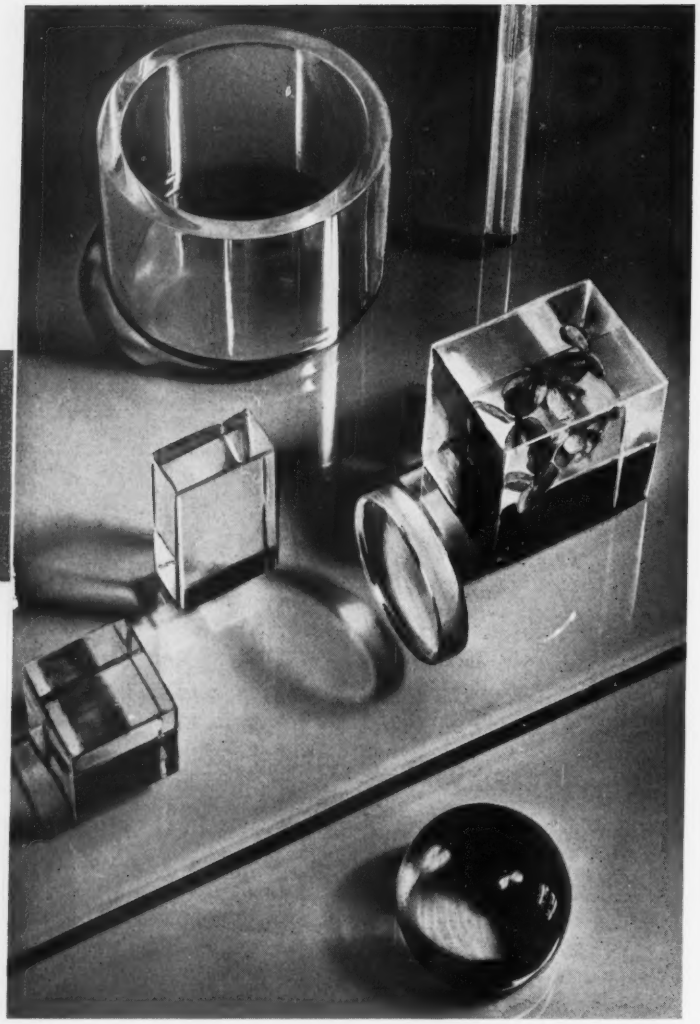
removing the cover. It may not be too soon to predict that there are many instances where they can successfully replace glass for the entire container with a resulting lightness of package that will save many dollars in shipping expenses both in actual transportation charges and in the lessened cost of protective wrappings. Being resilient to a remarkable degree they will absorb shocks in handling that would be dangerous to a similar package of glass.

Although classed among the more expensive plastics, these new materials are capable of injection molding which makes their production exceedingly economical. Injection molding frequently offsets the price differential of a compound costing more than twice that of a material capable only of pressure molding. It is this advantage which has made possible the use of so much acetate material in the automobile field. Injection molding technique is being rapidly improved in this country. New presses are being built. Their automatic features and the fact that molds for this type of molding may be made of less expensive materials and by less tedious and expensive methods, gives them a distinct advantage with thermoplastic materials. Unfortunately, however, thermoplastic materials are not suitable where the finished object will be subjected to much heat in use. If kept at a temperature of around 150 degrees F. for any length of time, they are likely to become soft enough to lose their shape if they meet with any tensile strain at this heat. It is this feature of plasticity alone which makes these materials suitable for injection molding. Then, too, the fact that all flash or rejects may be used over again without waste contributes to the economy of fabrication possible with these materials.

For more substantial applications, thermosetting plastics should be used and while these materials are less expensive in the beginning, they require such tremendous heat and pressure for forming that molds necessary to their production must be made of more substantial materials and by methods which are far more costly. There is still much experimenting being done with mold materials other than steel but so far none has been found to equal it in extended production. Beryllium copper has met with some success and since it can be cast into a mold of complicated design with much less effort and expense than the same design could be hobbed into steel, it is being used by several molders with varying degrees of success. Its rapid conductivity of heat or cold gives it an advantage over steel by its capacity for quick cooling after the molding is formed, but its softness as compared to steel makes its length of usefulness problematical. For injection molding, Beryllium copper is ideal. Pressures are not as great and rapid cooling of the material once it is forced into the mold steps up production to a point of considered economy.



This molded cutlery box serves as a display for the merchandise before selling, and as a utility case afterwards



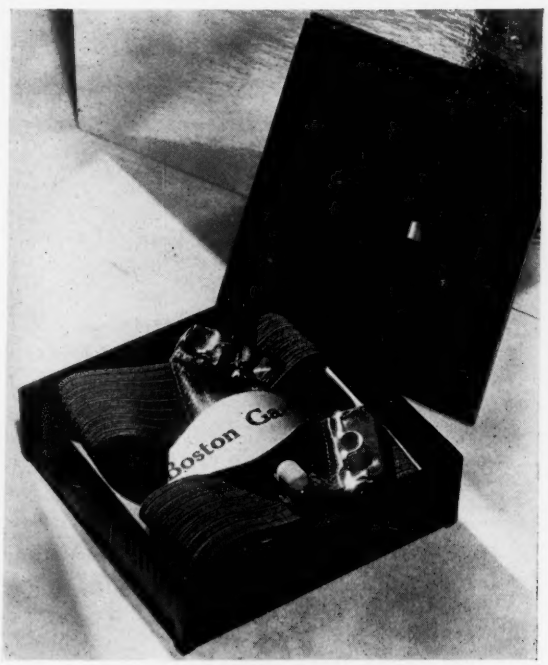
Pontalite (methyl methacrylate) is the new transparent resin which will be placed on the market shortly, as a thermoplastic molding powder, and as a cast resin available in sheets, rods and tubes. The material can be machined, compression molded or injection molded and it is available in a wide variety of brilliant transparent, translucent and opaque colors

Another development of interest to those who seek a durable package is the successful coating of fabrics with a phenolic surface which is both transparent and water-proof without odor. Available in solid colors, metallic effects, embossed and other designs, fabric so coated loses none of its flexibility nor is it glossy to an objectionable degree. It may be used for box coverings, linings, displays and decorative purposes.

Still another development which has made considerable headway during the past year is the use of cellulose acetate in thin sheet form either as a protective covering over a paper box or as a perfectly transparent packaging material by itself. It can be made up as a self-sufficient container or may be shaped under heat to be fitted snugly to the contours of a paper box. Manufacturers have made liberal use of this material during the past season to package powder puffs, tooth brushes, even cigars, and its protection of contents and attractive sanitary appearance has proved the worth of the effort. When used as an outer cover for the protection of an elaborately decorated box it renders real service by keeping the package fresh and clean while on display and prevents it becoming soiled in use after it has reached the consumer's home.

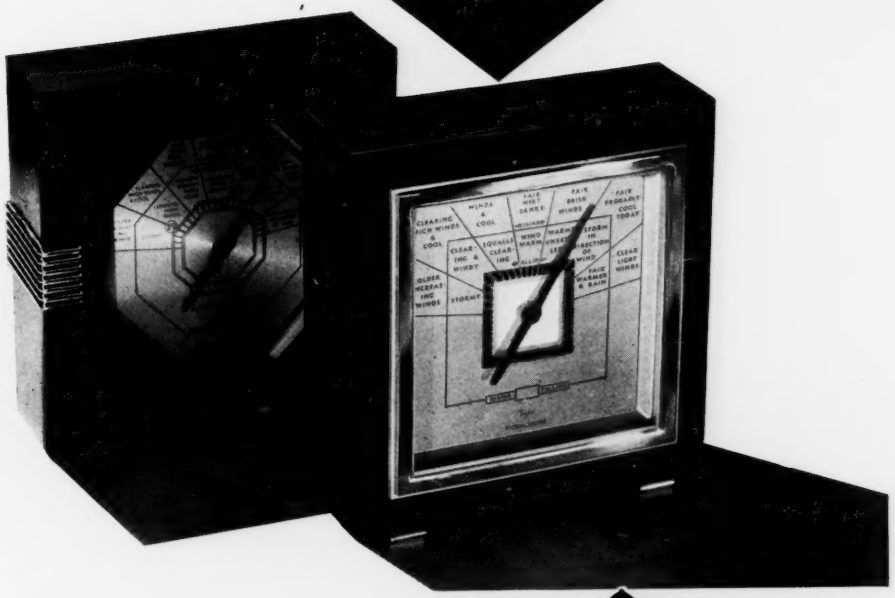
The molded box or container continues to satisfy merchandising demands for better physical appearance of packaged goods and there is an increased realization that such a box presents a luxurious appearance which leads to mounting sales. Many manufacturers have turned to this type of package during the past year and some splendid examples of well-planned designs have appeared. Manufacturers with national distribution whose packages frequently run into large numbers of identical containers sometimes find the cost of a plastic box is no more than that of a container with considerably less physical attraction. Sometimes such packages actually cost less, depending of course upon the nature of the packaging material which plastics are chosen to replace. Colors have been refined to such a degree that there is practically an unlimited field from which to select those most suitable to the particular problem in mind. Tactile qualities of plastic materials make them especially desirable for packaging where much handling occurs. Their smooth, lustrous surface gives the package a "feel" of intrinsic worth and quality which is not lessened by constant handling in the shops or at home.

Complete frankness between product manufacturers who would use plastics to advantage in their packaging and manufacturers who are called upon to supply plastic materials and molders who are to fabricate them, is essential for the best results. It must be remembered that



Double purpose boxes of molded plastics have aided sales, particularly during the holiday season, of garters and similar merchandise. Such containers may be had in special designs, as shown, or in a wide assortment of stock boxes

BETTER DESIGN



BETTER PRODUCTION

THE TWIN KEYS TO SALES WITH MOLDED PACKAGES

Typical of molding as done at the Diemolding Corporation's plant, is the new model of the Taylor Stormoguide . . . a completely redesigned device, yet one in which we were able to salvage the original molds and thus provide newer and modern sales appeal while keeping costs at a minimum.

Your package or product parts problem may involve utterly different elements . . . yet the skill and experience of Diemolding designers and engineers—pioneers in package molding—will prove invaluable in the creation of a better, and *better selling*, product and package.

May we show you more about how we work and how it affects your products? Write us.

TRADE DM MARK

DIEMOLDING Corporation
CANASTOTA, NEW YORK



Molded plastic boxes for razors have replaced former containers of other materials because of durability and improved appearance. Some of these incorporate partitions for the various items included in the sets



Molded plastic bowls have added to the sales of shaving soap. These may be had in various designs and in combinations of colors, using the same color throughout or having different tops and bottoms. Inset labels may be used or the trade mark or name included in the mold



New molded plastic jewel cases. A special construction provides a smooth outside surface with no objectionable projections. No hasps are necessary for opening and closing of the case

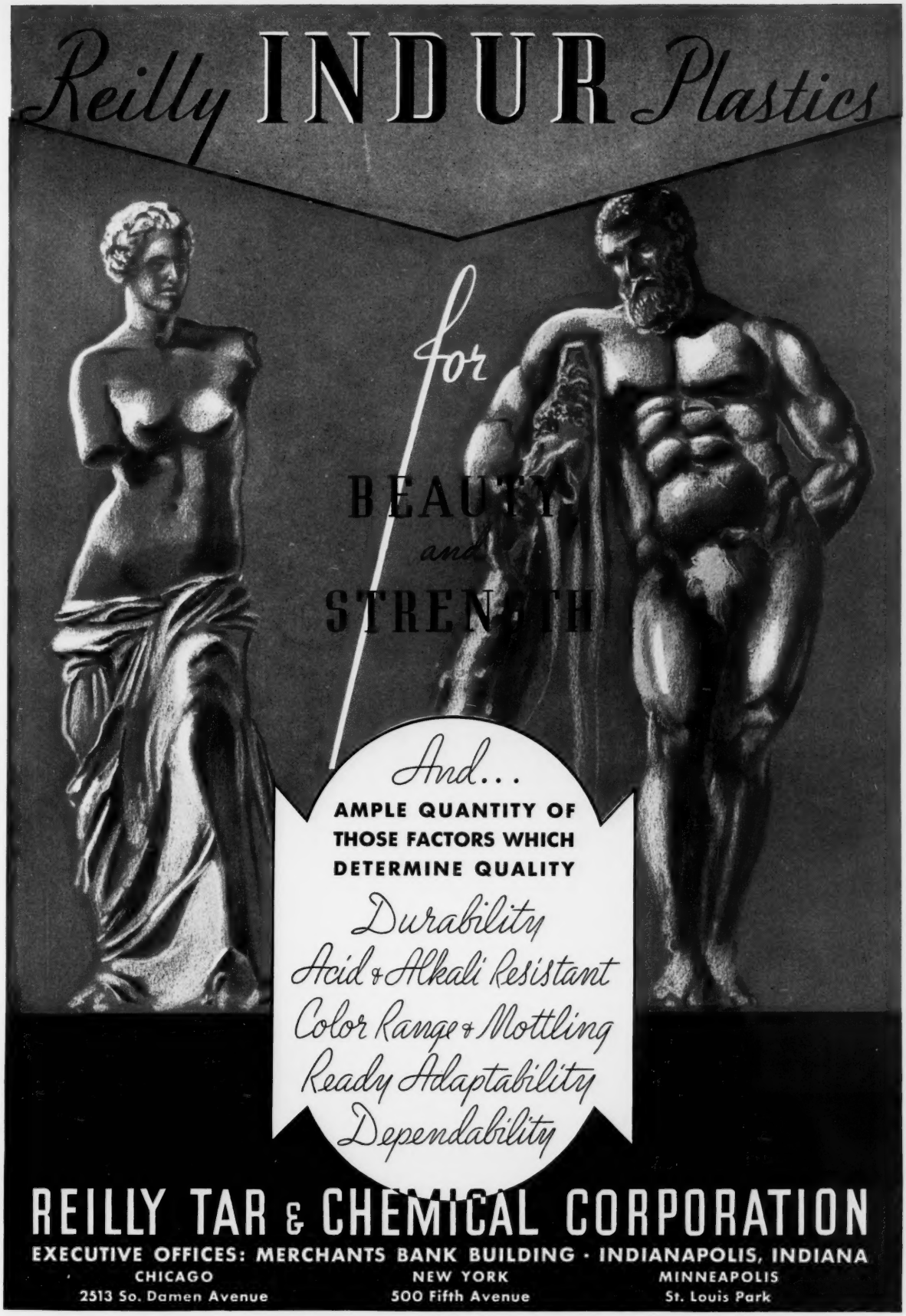
plastics are of chemical composition, as are most of the items they are required to package. Therefore, the material chosen for each application should be in complete chemical harmony with the product it is to protect and sell. This axiom applies not alone to plastics, but to every other packaging material. However, older materials are better understood than plastics. No manufacturer would consider packaging potato chips, for instance, in a tissue bag without proper pre-treatment of the tissue to prevent it from absorbing grease from its contents. Nor would he package an aqua-base product in a container of iron or tin without first protecting its interior with a non-ferrous lining of some sort to prevent corrosion and rusting. Yet, too many manufacturers consider the multitude of plastic compositions all in one breath, and, in doing so, are likely to choose a material unsuitable to their use. This is no condemnation of plastics, nor can it be blamed entirely upon the packer who is uninformed. Thousands of containers and closures of plastic materials are giving continual satisfaction, and sales of many products have been materially increased through their intelligent use. I bring up this point because, during the past few months, I have been repeatedly asked such questions as: "What is the best plastic material from which to make boxes?" "What is the best material from which to make tubes?" And when I begin to ask questions about the size and shape of the boxes in mind, and about the use of the boxes, my inquirers appear reluctant to give me any information. They seem to think I am prying into their affairs. Yet to give them any sort of an intelligent answer, all the facts bearing on the requirements should be presented before any material can be recommended.

There is a sufficiently wide variety of plastic compositions available at the present time to satisfy almost any packaging demand. Manufacturers of plastic materials, molders and fabricators are forever alert to improve properties and technique. Research departments are available, usually without cost to a prospective user, to work out any uncommon problems if the answer is not already at hand. Complete frankness is essential if satisfaction is to be obtained.

For the general purpose of identification, the four major groups of plastics are phenol-formaldehyde molding compounds; urea-formaldehyde molding compounds; cellulose acetate for both molding and stamping; and phenol-formaldehyde cast resins.

Phenolic Plastics

Phenolic molding compounds are of chemical foundation, delivered to molders in drums, in the form of powder. This powder is preformed, usually, into "briquets" resembling large aspirin tablets which are placed in a steel mold which has been machined to the exact shape of the object to be molded and chromium lined to produce a glass-like surface. The mold is then placed in a press where from 2000 to 10,000 lbs. per sq. in. can be applied under heat of 280 to 320 deg F. This causes the powder to plasticize or flow into every nook and cranny of the mold which confines it. As the heat con-


Reilly INDUR Plastics
for
BEAUTY
and
STRENGTH
And...
AMPLE QUANTITY OF
THOSE FACTORS WHICH
DETERMINE QUALITY
Durability
Acid & Alkali Resistant
Color Range & Mottling
Ready Adaptability
Dependability
REILLY TAR & CHEMICAL CORPORATION
EXECUTIVE OFFICES: MERCHANTS BANK BUILDING · INDIANAPOLIS, INDIANA
CHICAGO
2513 So. Damen Avenue
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500 Fifth Avenue
MINNEAPOLIS
St. Louis Park

RESI

There is a RESINOX molding m

Cameo-like beauty and rugged strength • The Resinox Corporation specializes in the manufacture of molding powders to meet the individual requirements of the molder and the package user. • Resinox molding powders may be obtained in varieties that are non-fading, non-bleeding, tasteless and odorless. They possess such industrially valuable characteristics as high torque strength and resistance to water, heat, checking, chipping, blistering and warping. Resinox is available in a wide color range including pastel tints as well as standard colors. • Distinctive molding qualities and inherent beauty—combined with moderate price—are definite reasons for the rapidly growing popularity of Resinox. Consult your molder or write **Resinox Corporation,** 230 Park Avenue, New York, N. Y.

XUM

NOX

material for every molding need



XUM



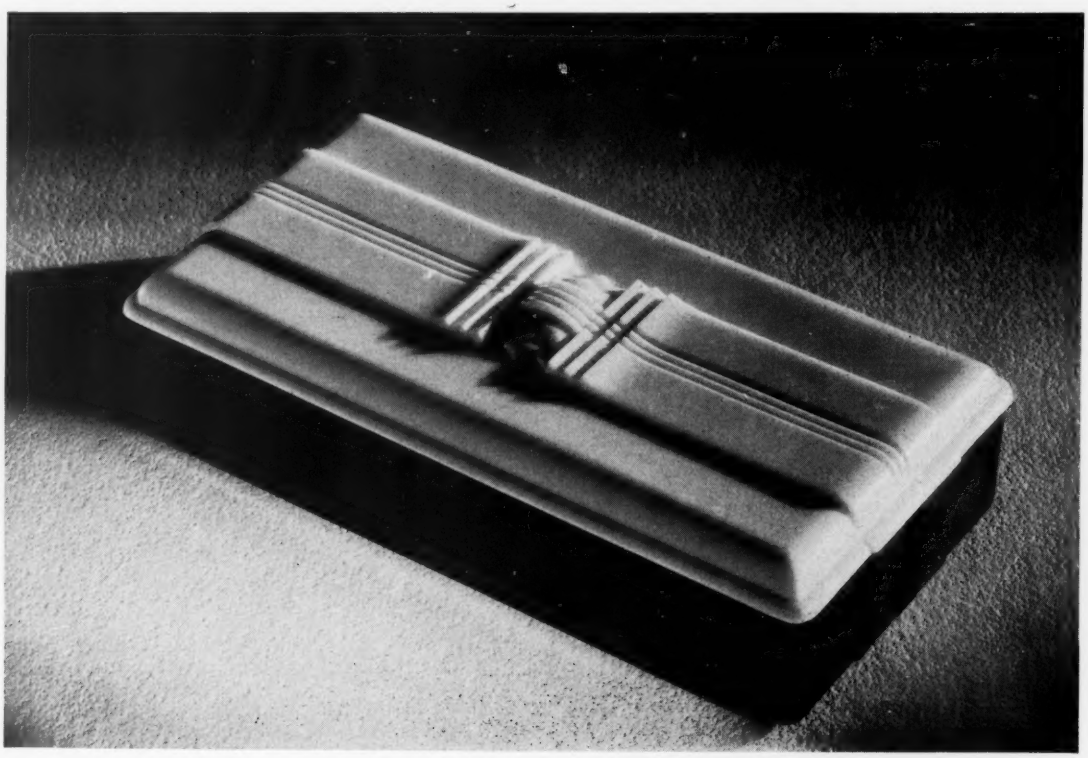
A circular tray, of distinctive design and molded of black phenol resin, serves as a base for fruit cake, while the convenient top or cover, which also carries an embossed design, is of molded urea



An ingenious molded plastic container designed for tablets of the aspirin type or smaller. It fits pockets or purses conveniently and the contents cannot spill out when the screw cover is removed. Labels are molded into either top or bottom, or wrap-around paper foil labels can be used

tinues from thirty seconds to three or four minutes, depending upon the size of the piece being molded, the plastic material cures—or bakes. When removed from the mold, the piece is unaffected by further heat or cold, is resistant to acids and weak alkalis, will not burn and retains indefinitely the lustrous surface which it acquires from the polished surface of the mold. Thermosetting plastics (those unaffacted by heat after molding) are inert and rigid. Water absorption of certain types is almost nil. They are insulative against heat and cold, never becoming cold to the touch even under the coldest weather conditions.

The foregoing paragraph may appear elemental to some readers but I do not think it is out of place in this catalog because there are many manufacturers yet to become acquainted with these new materials for packaging and the ABC fundamentals will contribute to their understanding of the advantages and limitations of the various groups. To have some understanding, however elemental, of the processes by which containers and closures



Exquisite design in a utility case for fountain pens. The ivory urea cover, reversed, becomes a felt-covered display tray

In 1936...

BOONTON ENGINEERS ARE DOING WHAT OTHER MOLDERS WILL BE DOING

In 1939

There, in a nutshell, is the whole secret of Boonton success . . . the whole reason why the Boonton moldmark has become identified with the finest in plastic molding.

A spirit of perpetual dissatisfaction with things-as-they-are pervades our plant . . . keeps us working, constantly, to devise better methods of achieving better results at lower costs.

We insist on making a fair profit . . . but we find our more advanced methods often still permit us to quote competitively with the market. Even if you're satisfied with your present molding costs . . . we won't be.

Boonton Molding Company

Boonton **New Jersey**



Top: By a special process, covers for flat-silver chests are molded of phenol and urea plastics. The size shown is 15½ by 11 by 1¼ inches. Lower: This molded box with a urea top and phenol base for make-up preparations is an interesting example of the use of molded partitions. Note also the special hinge employed



Rouge and eye shadow boxes (round) are molded of white urea, with the decoration in gold, while the mascara box is of brown phenol with white decorations

are made is bound to create a visualization of the potential possibilities of practical designs and the wide range of usefulness these plastic materials present to the packaging field of today.

In order to withstand repeated heatings and tremendous pressures without undergoing the least atom of



Two of the newer designs in molded plastic boxes for manicure sets. The one at the left is equipped with drop sides, permitting convenient access to contents, while the other has a hinged lid. Various color combinations may be used for covers and bases

physical change, molds must be made of the finest grades of hardened steel. Machining molds is a long and tedious operation requiring days, often weeks, of skilled labor to tool and hob the desired shape with its intricacies of design and lettering into a solid block of hard metal. Accuracy to the thousandth of an inch is imperative if tolerances of the molded parts are to be correct when finished. Allowances for every possible shrinkage of the material and the molded part must be painstakingly figured in advance. Alterations are costly, if not impossible, and should be avoided. But when a mold is completed, it is ready for indefinite production. It should be remembered, too, that when finished parts come from the mold, they are really finished and the finish is there to stay. It is but a moment's job to remove the fins and there is no polishing, spraying, enameling, baking and such, which adds considerably to the cost of finishing other materials. When these factors are taken thoroughly into consideration with their relationship to finished costs, molded products often save the entire cost of the original molds by reducing hand finishing labor costs where other materials are concerned.

While all plastics possess features of interest to those engaged in packaging goods, different types of the material have definite characteristics which should be considered. Under each group of materials there are many different types, each with its individual properties and advantages. There are odorless materials, materials that will not bleed or bleach, materials that have greater resistance to acids and mild alkalis, materials in which food and facial creams can be safely packed, and other types of similar properties.

It is the versatility of these materials that give promise of an extended use of plastics in the packaging field in the future. Designers and manufacturers intending to use a plastic package of any sort should work closely with molders and material suppliers for it is frequently possible to make a slight change, either in design or assembly of the package, which will result in substantial savings, both in the construction of the mold and in the finished piece. This close cooperation also insures get-



Pointing THE WAY TO PACKAGING SUCCESS

The most important step toward successful packaging is to choose the right molder. The four guides to the right choice are—(1) Experience. (2) Production Facilities. (3) Price. (4) Record of Successes. Here's how they apply to Auburn.

1. **EXPERIENCE**—Auburn's 60 years of molding experience started with pioneering plastic buttons in 1876 and extends through every known plastic. As one of the oldest and largest plastic molders, our experience is your guarantee of the finest molded parts money can buy.

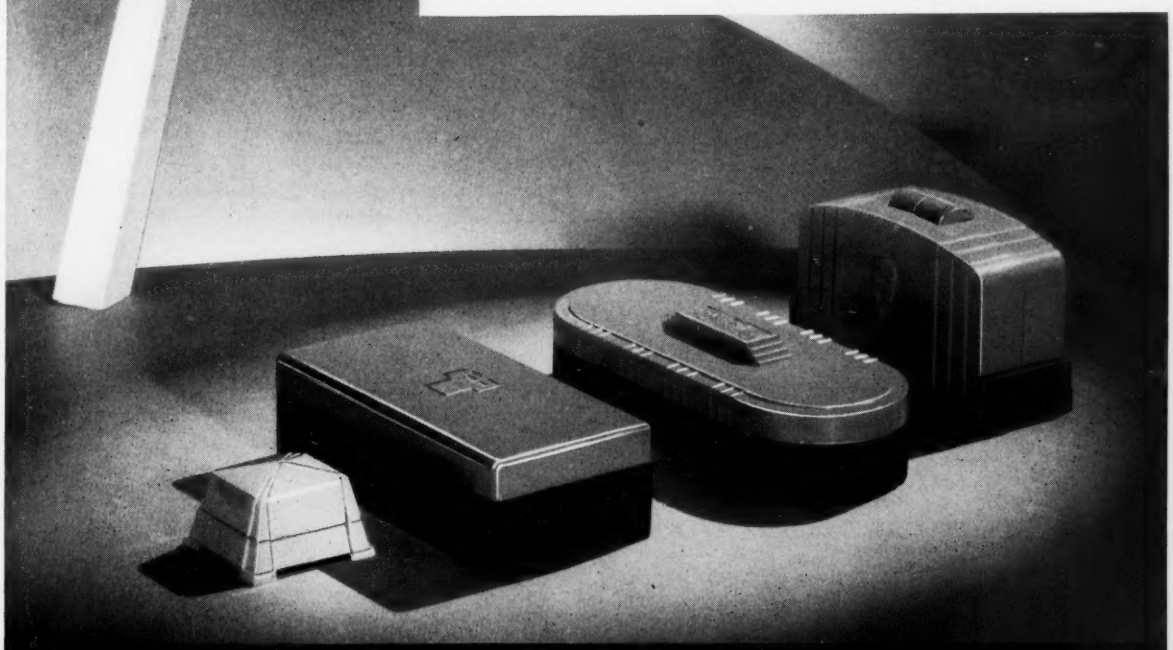
2. **PRODUCTION FACILITIES**—Our size is in itself a guarantee of production facilites to meet your requirements—regardless of size or quantity. Coupled with this is a consistent modernization policy that brings our clients every production economy available.

3. **PRICE**—Years of experience have given us a background of knowing how—that insures you all available short cuts. Our prices are as low as are consistent with the quality of our work.

4. **RECORD OF SUCCESSES**—To every packaging job Auburn brings the same experienced skill which has been responsible for the creation of a long line of prize winning and sales winning packages. Such a record speaks for itself.

Let us put this experience to work for you. It costs you nothing but it is the most important factor in your packaging success.

Established 1876



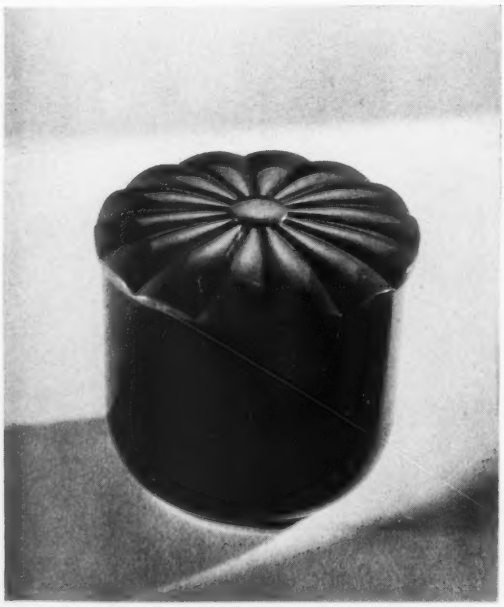
AUBURN BUTTON WORKS, Inc.
AUBURN, N. Y.



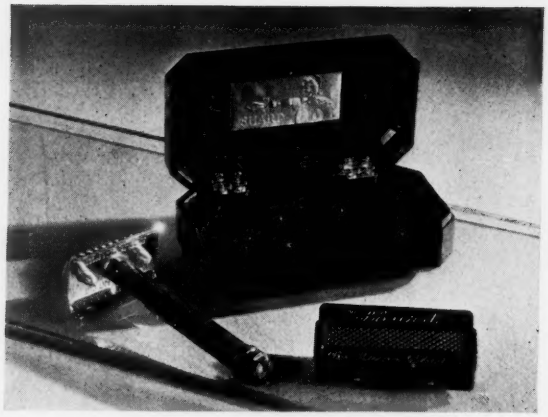
New display box, molded of urea and with hinged cover, for wrist watches, also serves as a container for that article when not in use. Identification of watch maker is "washed in" in a contrasting color

ting the right type of plastic material for each requirement that may be desired.

Molding materials were first introduced into the packaging field through closures, and acceptance by consumers was instantaneous and phenomenal. Perhaps no single improvement in packaging has met with more favorable response, nor contributed more obviously toward improved appearance than plastic closures. The benefits are actually greater than they appear on the surface. If chosen of the proper molding compound, plastic closures are unaffected by the contents they seal. They do not rust or corrode in contact with pharmaceutical products, nor do they discolor the contents of the container. Their threads, being molded in, are uniform



Plastic molded jar for cosmetic creams. Available in a stock mold and can be produced in any color or combination



Another type of molded plastic razor box. Here a distinctive appearance is obtained by a variation in the shape of the container from that customarily used

and cannot be stripped easily. They are usually made with a comfortable grip which allows an unusually tight seal, yet one that is quickly unsealed at a flick of the fingers—even delicate fingers. There is no question of their popular appeal to consumers, both from the standpoint of neat appearance and increased utility. Their appearance on bottles, tubes, jars, and other containers displayed in the shops has become universal.

Closures, however, are but one item in the growing field of packaging applications to which plastics in one form or another are uniquely suited. Innumerable containers for lipsticks, eye shadow, powder and rouge have been made successfully. Creams, which seek a container that demands attention and gets it, are being packaged in plastic jars with covers to match or in contrasting hues. All sorts of vanity cases, powder containers, and hundreds of vari-styled boxes with attractive reuse possibilities have taken advantage of molded color available through the use of molded plastics. In recent months, several safety razor concerns have switched to plastic boxes for their popularly priced sets. Sales results have been astounding. Plastic boxes for safety razors become more than a package in which to deliver the merchandise into the home. They become constant traveling companions ever remindful of the courtesy of the maker in providing such a convenient package. Shaving bowls, shaving sticks, even cases for styptic pencils are being made in England quite generally, and some American manufacturers are following this lead and producing similar items.

Reuse containers for the introduction of a new product have been tried and found successful. Christmas and other holiday packages for belts, garters, suspenders and the like have been used successfully during the past three or four years and the notion is spreading rapidly to other fields. Men, particularly, like the smooth sanitary feel of a plastic case—for whatever purpose. Colors are available in an abundant choice and may be pleasingly combined in different sections of the same package.

There is another decided advantage to be gained through intelligent employment of plastic materials in

DISTINCTIVE...

MOLDED PLASTIC CONTAINERS



Containers by Waterbury—the keynote in the packaging industry to unexcelled molded plastic containers. Beauty of color and design, smartness and individuality are all yours when you let Waterbury shoulder your packaging burden.

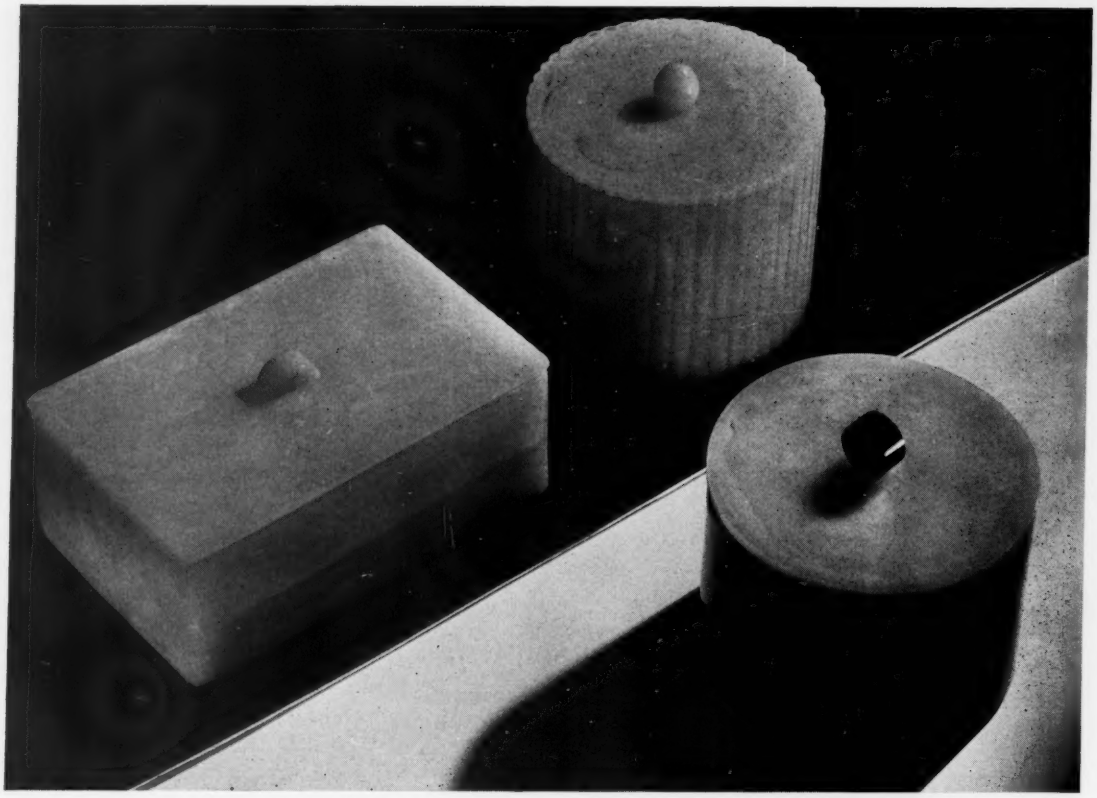
80 years of molding, certainly an envious and unsurpassed record, combined with skilled craftsmen who have spent their entire lives designing, engineering and producing distinctive plastic containers, is your assurance that we can do the job better. In addition this complete packaging service is entirely under one roof to guarantee fingertip control, constant supervision and to facilitate faster service.

Choice of all accepted commercial molding compounds such as—Bakelite, Beetle, Durez, Plaskon, Tenite, Unyte.

Why go to an inferior source when the best costs less? Consult Waterbury today.

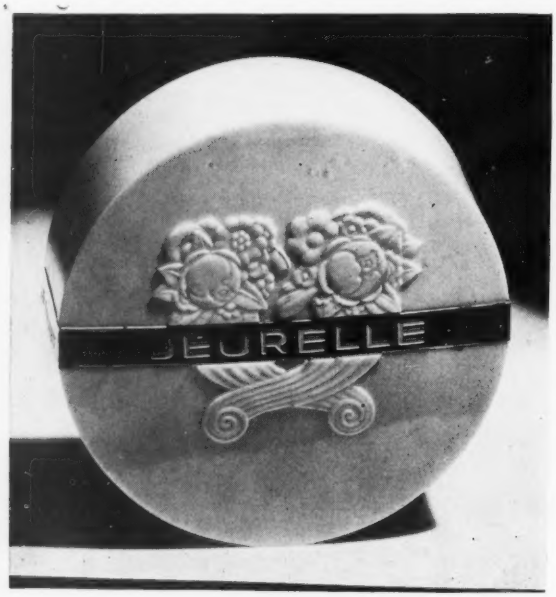


THE WATERBURY BUTTON COMPANY
PLASTIC DIVISION
EST. 1812
WATERBURY, CONN.
NEW YORK CITY . BOSTON . PHILADELPHIA . ROCHESTER
DETROIT . CHICAGO . TORONTO



Types of boxes made entirely from phenol-formaldehyde cast resin. An extensive use for this material in the packaging field is the placing of small pieces of the resin on set-up boxes, for supplementary decoration, handles and the like

packaging. That is their lightness in weight in comparison with metal and glass and the resulting savings in packing and shipping throughout the country. Molded packages are practically unbreakable, and can be packed for shipping in much lighter containers than is possible for the shipment of glass. The plastic containers themselves are lighter than glass.



Powder box carved from a solid block of ivory resinoid with gold metal strap. Later molded in urea

Another advantage lies in the opportunity for unique shapes. Plastics can be molded in any shape the designer cares to suggest. Threads become an integral part of the molding. Trade marks, trade names, or any desired decoration can be molded in at one operation.

Inlays of metal or other material may be specified. Decorative possibilities are practically without limit. Engraved or repousse effects are obtained by engraving the mold. Oxidized metal powders may be mixed with molding powders to produce striking effects. Or the smooth natural luster of phenolic moldings in their wide range of natural colors may be found sufficient for all practical purposes of modern packaging.

Manufacturers of materials in this group include: Bakelite Corporation (Bakelite); General Plastics, Inc. (Durez); Resinox Corporation (Resinoid); Makalot Corporation (Makalot); General Electric Company (Textolite); and Watertown Mfg. Co. (Neillite).

Cast Resins

Phenol-formaldehyde cast resins differ from molding compounds in that they are supplied by the manufacturers to fabricators in definite shapes rather than in powder form. Cast resins are available in sheets, rods, tubes and other standard stock shapes in a wide range of sizes and their method of fabrication is by machining and assembling rather than molding. They have an

BAKELITE CORPORATION

247 PARK AVENUE, NEW YORK, N. Y.

BAKELITE CORPORATION OF CANADA, LTD., 163 Dufferin St., Toronto, Ontario, Canada

Works at Bound Brook, N. J.; Bloomfield, N. J., Sales Offices at Chicago, Ill., Cleveland, O.; Hartford, Conn.

BAKELITE

TRADE MARK REG. U.S. PAT. OFF.



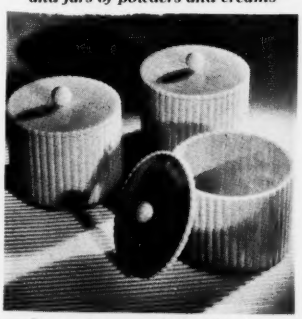
Bottles with Bakelite Molded closures for liquor, drugs, cosmetics and foodstuffs



Tubes with caps of Bakelite Molded —one with metal applicator embedded



Bakelite Molded closures for bottles and jars of powders and creams



Jars and covers of Bakelite Cast Resinoid

Closures for Bottles, Tubes and Jars

Development of the modern art of packaging demands that a closure serve a double duty. It must thoroughly seal and protect the contents and add to the attractiveness and saleability of the product. Because they meet these needs so admirably, it is easily understood why Bakelite Molded closures have been adopted for so many packaged products.

Bakelite Molded closures are non-corrodible, possess unusual lustre and beauty and are readily formed into exclusive designs. The molded threads are clean, accurate and uniform, and the closures are easily tightened and released.

Containers and Dual-use Packages

Bakelite Molded containers are successfully promoting the sale of products of widely different kinds, including cosmetics, candy, safety razors, garters, belts, watches, dental burs, automotive parts, etc.

Many of these containers are designed for dual-use; first, as an attractive package for a product, and then for after-use as a cigarette box, jewel case, ash tray, or other service. Because of its beauty of color and finish, strength and durability, Bakelite Molded is especially well suited for dual-use containers.

Merchandise Displayers

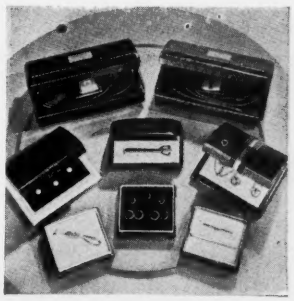
Attractive modern displayers, that invite favorable attention to the products shown, are being made of both Bakelite Molded and Bakelite Laminated. Displayers made of these materials retain their fresh, new appearance indefinitely, and do not become shabby and unsightly.

Water-proof Box Coverings

Revolite—a flexible water-proof cloth, processed with Bakelite Resinoid. Available in solid colors, metallic effects, embossed and other designs. For box covers, linings, displays, and decorative purposes.

Send for Information

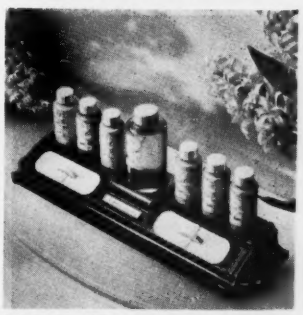
Write for Booklet T, "Restyling the Container to Increase Sales". Whether your product is packaged in tubes, bottles, jars or boxes, you will find this booklet helpful. Do not hesitate to call on us for information and assistance in adapting Bakelite Materials to any of your products.



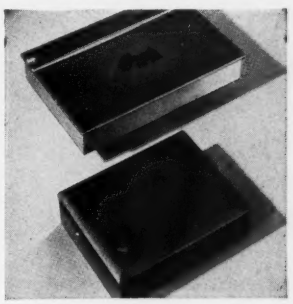
Belt, tie-clip and stud set dual use packages made of Bakelite Molded



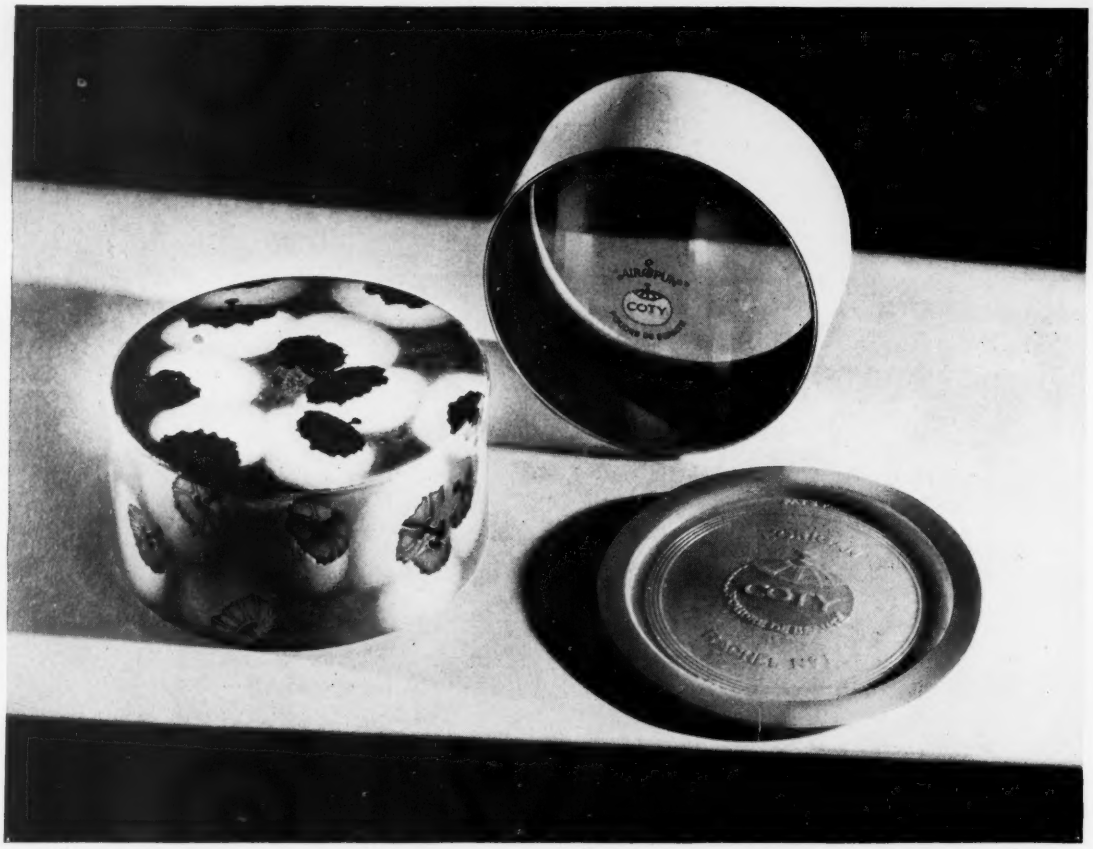
Counter Displayer for watches made of Bakelite Materials



Bakelite Molded display stand for bottles



Gift boxes lined and covered with flexible, water-proof Revolite



In a box brought out this year for a new face powder, a molded urea base is successfully combined with the round paper board bottom. Afteruse of this base suggests a convenient coaster

advantage in package fabrication where a limited number of units is required because mold costs are entirely eliminated. During the past year, a number of manufacturers striving for the unusual have made use of cast resins for cosmetic packaging and displays. Food and candy manufacturers seeking a seasonal package of uncommon beauty may well take advantage of the gorgeous colorings or almost pure transparency of this type of plastics. Until a short time ago, most cast resins were used by button and jewelry fabricators—nearly seventy per cent of all costume jewelry which appears on the market today is made from this material.

A number of manufacturers of cardboard boxes have recently used small bars and knobs cut from rods of cast resin as decorative handles. The bright colors give a brilliant contrast and a feeling of permanence which the package would not otherwise have.

Manufacturers of materials in this group include: American Catalin Corporation (Catalin); Marblette Corporation (Marblette); and Fiberloid Corporation (Fiberlon).



Bases and covers of these new watch display boxes are molded of urea plastic in contrasting colors

Urea Plastics

Urea plastics are of the molding type and are available in lighter shades of color than most of the phenolic group. This is because urea syrup, before the condensation process which reduces it to powder has taken place, is a water clear liquid. It, therefore, gives full value to pigmentation and even pastel shades may be definitely controlled. Even white and ivory are possible in ureas. To the manufacturer whose package depends upon daintiness of color for its selling appeal, urea may be the ideal molding compound. Provided, of course, that its chemical properties are suitable to the job. Although higher

• PROFITABLE • PACKAGING •



Beauty and Appeal go Hand in Hand. Cosmetics packaged in Kurz-Kasch colorful, attractive and thoroughly modern containers go places.

THE KURZ-KASCH COMPANY • DAYTON, OHIO

plastics give sale



Fl Side

S-543
S-544
S-548

Moderni Contain

Cat. 1/16 oz.
Cat. 7/32 oz.
Cat. 4 3/8 oz.
Cat. 5 oz.

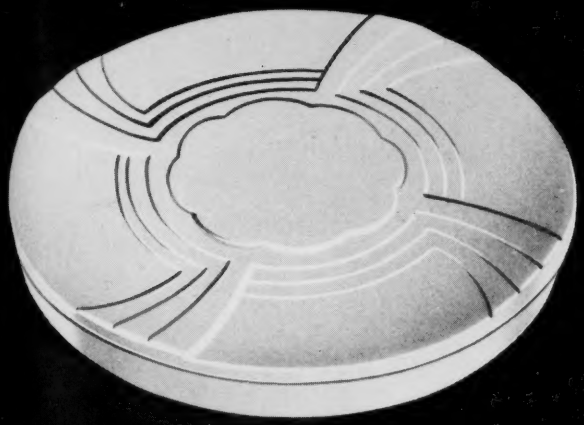
Deluxe Cont:

Cat. S-54 oz. Crea
contr

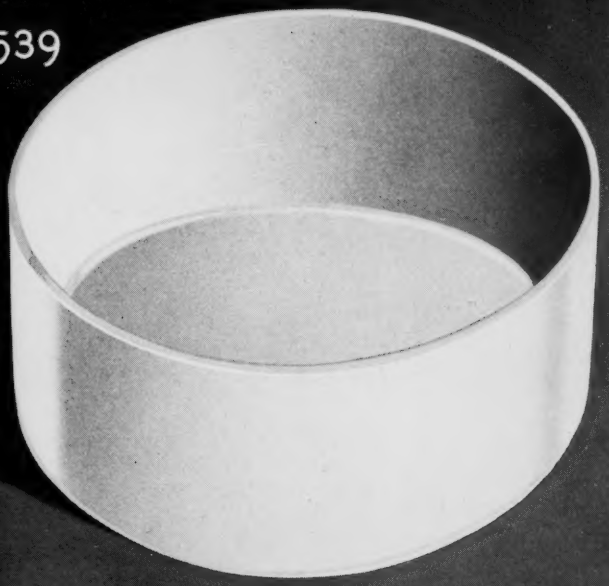
All Containe cked B
colors Beetle Plaskon.
Packed—On ss to C
Consult us a individu
stock covers specially
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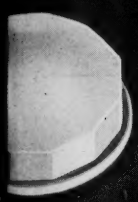
XUM

e push to products



S-539









S-544







S-543

Fl Side Containers:

- S-543 1/16 oz. Cream Rouge
- S-544 1/8 oz. Dry Rouge
- S-548 3/64 oz. Eyeshadow

Moderni Containers:

- Cat. 1/16 oz. Cream Rouge
- Cat. 7/32 oz. Dry Rouge
- Cat. 43/8 oz. Powder Box—Telescopic Type
- Cat. 5 oz. Powder Box—Shallow Cover

e Cont s:

at. S-54 oz. Cream Rouge—Available on large contracts only.

ontaine ocked Black Bakelite and choice ten Beetle Plaskon.

d—On ss to Carton.

lt us a ndividual inlays and lettering on our cover specially designed containers to suit partic eeds.

XUM



Style of Container Illustrated Above Available in Three Sizes. See Inside Page.

Containers of beauty and utility are produced from molds built in our own toolroom where precision is the pass word. This insures perfect fitting covers and lasting finish which is important from user standpoint, contributing to the pleasure derived from their use.

So versatile are these dainty, colorful containers that outstanding manufacturers of cosmetics have been tremendously successful with packaging in them their cream and dry rouges, mascaras, paste perfumes, and face powders.

SEE KURZ-KASCH FIRST FOR PACKAGING APPEAL!

THE KURZ-KASCH COMPANY

OFFICE AND FACTORY DAYTON, OHIO

KK-160

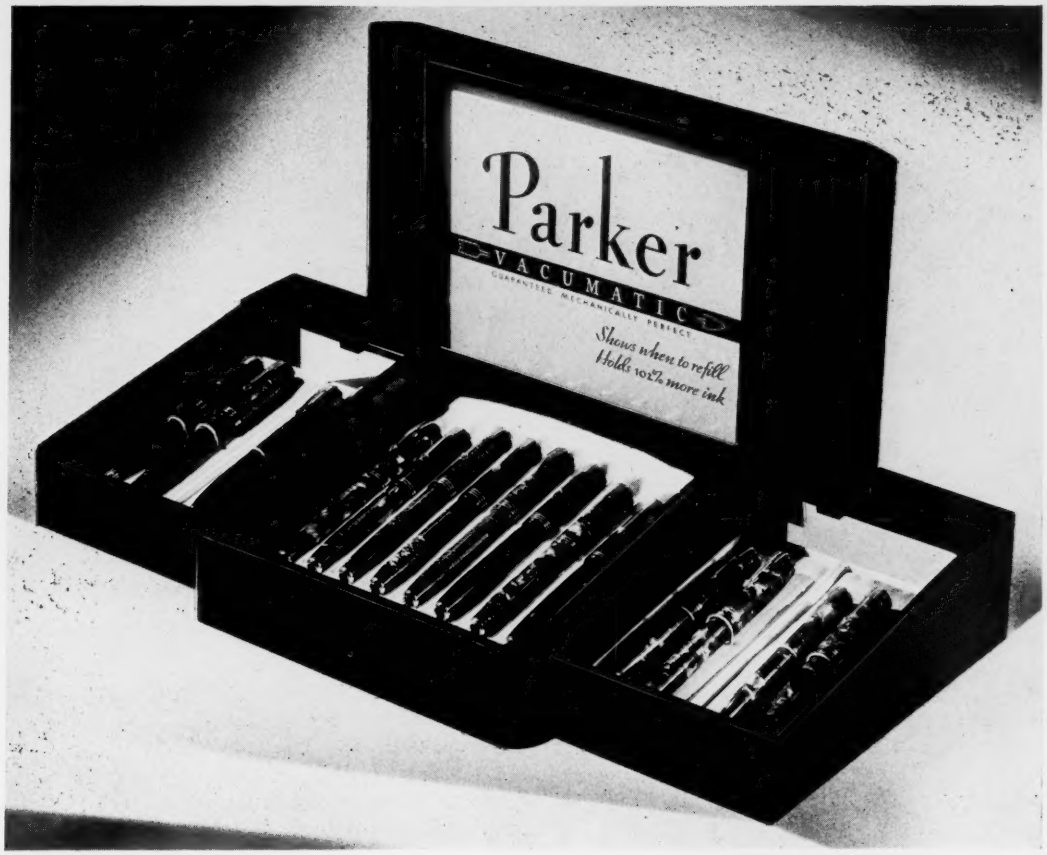
CHICAGO CLEVELAND DETROIT MILWAUKEE NEW YORK ST. LOUIS DALLAS LOS ANGELES TORONTO

PRINTED IN U.S.A.

2154

PACK

XUM



This outstanding Parker Pen display is molded of lustrous black Bakelite. The center tray is of translucent Plaskon, permitting the light behind it to shine through the laminated Vacumatic Pen barrels, and thus demonstrate the pen's selling features.

SELL WITH MOLDED PLASTICS

More and more alert merchandisers each year are using the proven selling appeal of molded plastics to spur sales and profits.

Containers of molded plastics are being used to add eye appeal; to increase the unit of sale; and to provide that extra value—after use.

Displays of molded plastics provide a rich setting which draws attention and visualizes the selling features of the product. The lasting quality of their lustrous finish insures them a permanent place on the dealer's counter.

Whether your problem is one of packaging or of display, this organization can help you in its solution. Here you will find merchandising knowledge to help you in the effective development of the idea; engineering knowledge to produce the article correctly and economically; and production facilities to give you the quantities you want when you want them.

Even though your merchandising plans have not yet taken definite form, you are invited to submit your problem so that we may work closely with you toward its solution.

CHICAGO MOLDED PRODUCTS CORP.

2154 Walnut Street **Chicago, Illinois**



A molded urea box simulates carved ivory and serves handsomely as a display and utility case for a well-known watch

in price than the phenolic compounds, this advantage of color and translucency is often worth the difference in many applications. Urea moldings are insoluble and inert, resistant to greases, oils and solvents. They have no taste or odor and there is little or no tendency to show dirt even with constant handling.

Ureas have been used widely for tube and bottle caps because their broad range of colors offers a distinctive note of attraction while goods are on display. They are frequently chosen for better harmony with labels than would be possible with dark colors. They are especially suitable, too, for intimate use in the boudoir and bath and for that reason have found general favor in packaging cosmetics and toiletries.

One molder has recently brought out a complete line of cosmetic jars in which an inside container of a special composition is enclosed in a urea shell with closure to match. It is claimed that this interior container is unaffected by any ingredients of cosmetics and that the vacuum space between the interior and the shell serves as an insulation against freezing during winter shipments and keeps the content of the container in better condition during the summer months.

Ureas are often used in conjunction with plastics of the phenolic group. Their gay colors contrast pleasantly with the brilliant blacks and dark shades of the less expensive material. Urea covers of ivory or pastel shades create a harmonious ensemble with the smooth lustrous finish of black phenolic boxes and jars. A fountain pen manufacturer recently used ivory urea trays for the actual display of pens in an electrically illuminated molded display stand of black. The opportunity for similar combinations is just beginning to be realized.

Manufacturers of urea materials include: Bettle Products Division of American Cyanamid Company (Beetle); Plaskon Company, Inc. (Plaskon and Unyte).



Eminently suitable to the purpose and place of use is this new razor box. Base, cover and partitions are molded of white urea

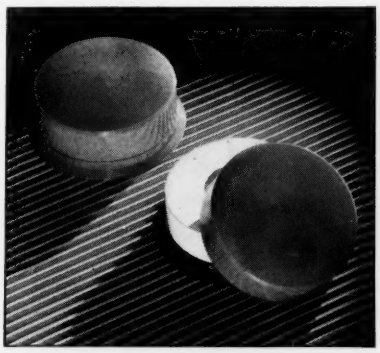


Similarly effective are new ring and rouge boxes molded of white urea. A special hinge on the former provides easy access and closing

FOR EVERY TYPE OF PRODUCT



KITS—Cutex took advantage of Durez' design possibilities and created one of the most outstanding nail polish packages in recent years. The kit is light in weight, pleasant to touch. The finish is permanently sleek and lustrous, will never scratch, dent or peel.



POWDER BOX—A sleek, lustrous Durez powder box is sift-proof and reduces odor loss found in packages made of more porous materials. Women like it better than conventional boxes because it is *permanently* attractive.

there's a profitable use for DUREZ!

As the photographs on this page show, there is practically no limit to the number of applications of Durez to packaging. Durez packages have a smooth, "quality" look which appeals to people . . . which makes the product itself seem more desirable. In short . . . they *sell.*

Durez molded pieces have a shiny, lustrous finish that will never dent, scratch or peel. Alcohol and most common chemicals will not affect Durez in any way. It is light in weight — reducing shipping costs — yet structurally strong.

If you would like to know more about the possibilities of improving your packages with Durez, we'd be glad to send you more complete information, and to put our test laboratories at your disposal. Just write General Plastics, Inc., 37 Walck Road, North Tonawanda, N. Y.

DUREZ

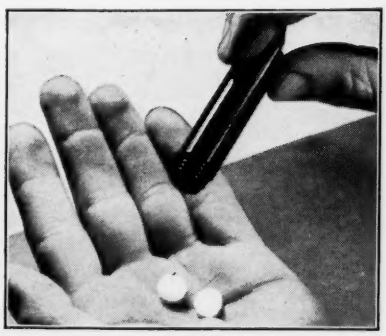
THE MODERN PACKAGING MATERIAL



DE LUXE BOXES—A new Durez package will do wonders in stepping up sales. The cakebox shown was used by the Larsen Baking Company for their special holiday fruit cakes...and it increased sales 25% over 1935.



CREAM JARS—Dermalure creams are now packed in three-piece Durez jars that weigh up to 60% less than conventional jars. They are inert to the creams, and the lids screw on and off with a mere flick of the fingers. Name and trade-marks are molded in top and sides.



TABLET VIAL: Wheeling Stamping Co. scores a scoop with this new molded Durez tablet vial. Light, compact, handy... it slips out of the way in a vest pocket or purse. A flick of the fingers removes the cap. It is shatterproof, and the sleek, shiny Durez finish will not wear off. Fine for liquids too, for the tight-sealing screw-cap can be equipped with an applicator.

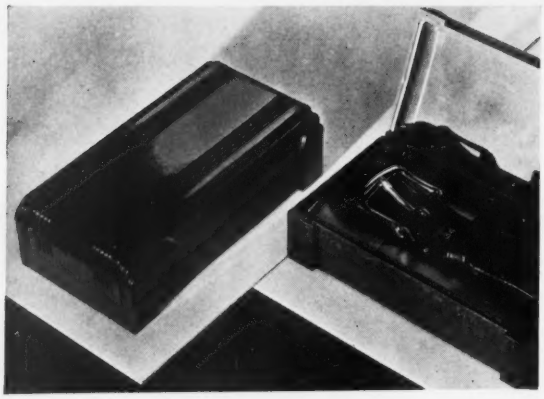


PACKAGE WITH PERMANENT USE—This Durez razor box will swing many a sale for the razor. Old-blade receptacle, new-blade package and the razor itself all fit into their neat niches. Soapy hands and wetting won't hurt it a bit. Other toilet articles can be packed the same neat, attractive way.



BOTTLE CLOSURES WITH PERSONALITY —The trade-name's Crown . . . so they made the closure one! Durez molded screw-caps can be made practically any shape to complement the design of your bottle or to tie up with your trade-name. Durez screw-caps always come off and go on easily, yet provide a tight seal.

XUM



Molded plastic boxes of modern design continue to be the haberdashery manufacturer's practice of making gift items out of formerly staple merchandise. This container is distinguished by two series of parallel ribs extending across the top and ends. A variety of color combinations permits its use on several different types of belts

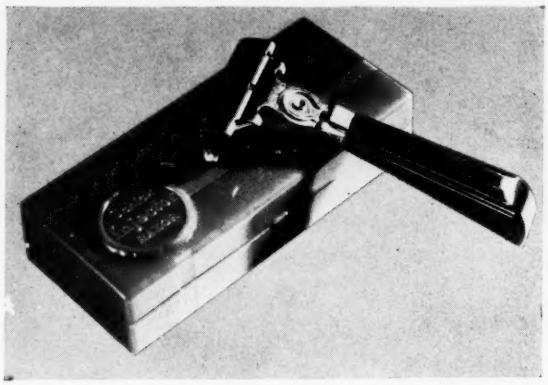
Cellulose Acetates

Cellulose acetate is available in sheets, bars, rods and tubes as well as in molding compounds and may be obtained in any color from clear transparent to every shade desired by the most exotic designer. Its mottled effects are legend and there is practically no limit to the variations of this versatile material. Heat and pressure are required to mold it, for most purposes, but for thinner applications, cellulose acetate may be diestamped in a similar manner to metal.

This material, as explained in the beginning of this article, is suitable to rapid injection molding and has gained considerable popularity in the automobile, jewelry and novelty fields. Moldings are practically non-inflammable but will not stand as much heat as thermosetting plastics after being formed. They are tough, resilient, light weight, uniform, tasteless, odorless, sanitary and non-corrosive. They do not deteriorate with age as do cellulose nitrate plastics and are not easily broken. Cellulose acetate applications are increasing notably in the packaging field especially in the form of transparent containers.

Manufacturers of cellulose acetate include: Celluloid Corporation (Lumarith); Tennessee-Eastman Corporation (Tenite); Fiberloid Corporation (Fibestos) and Du Pont Viscoloid Corp. (Plastacele).

The consistent progress evident in the development of all types of plastics and their adaptability to various containers and closures have placed them in the forefront of packaging materials. While formerly sought,



A new razor is introduced with all the attraction of its expensive model at less than half the price—in a molded box. The handle of the razor is of cast phenol

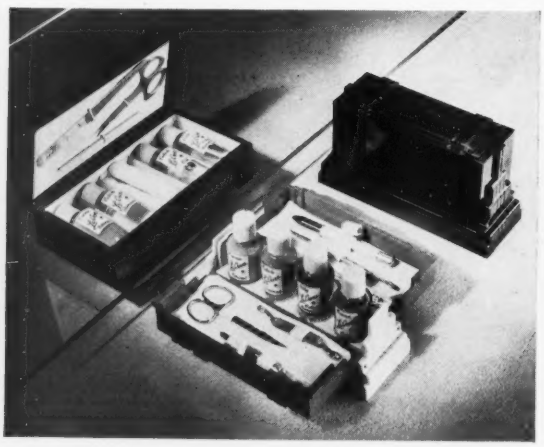
in many instances, as a substitute for other materials—a utilization which, because of price differentials, considerably limited their use—plastics have proved their value elsewhere in the packaging field as distinctive, durable and effective.

Containers from Stock Molds

There are probably many manufacturers who would like to package their product in plastic boxes if they knew such boxes could be obtained within the limits of their appropriation for containers. It has probably never occurred to some of them that many such boxes are available if they were only able to dig out the source of supply. It is to these manufacturers that this article will be of special interest.

Original mold costs have been frequent barriers to manufacturers whose requirements for a few hundred boxes of exceptional quality to package a certain item would not permit the additional investment and still leave anything like profit. Molded boxes from stock designs are the natural answer to these requirements and there are many molding establishments with a number of such molds in their archives waiting to be used.

It is keen buying judgment to take advantage of these stock designs and there is no reason to believe that because a box has at one time been used to package a product that it is not equally useful in packaging another product. Even though a stock design is chosen to avoid mold costs, there is nothing to prevent the molding from being given its own individuality and made suit-



For packaging manicure sets, molded plastic containers are extensively used, using both phenols and ureas in standard colors or pastel shades. Here are shown two types, one incorporating hinges which enable the sides to open flat; the other of the conventional type, re-usable after the contents have been used up



WHAT HAVE WE DONE FOR OTHERS?

Designed economical, attractive Plastic packages that have had an enviable record for sales success.

WHAT CAN WE DO FOR YOU?

Study your problem and let our engineering and designing staff create better moldings at lower costs.

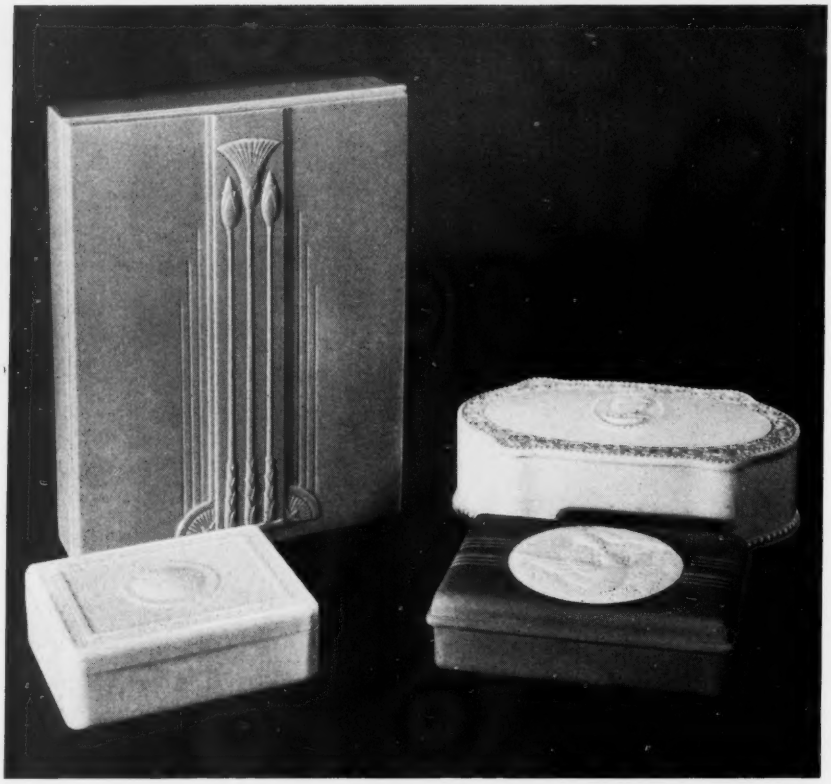


We would welcome the opportunity to answer these two vital questions in terms of your own problems and conditions of personal contact. A word from you by mail, wire or phone will bring one of our executives.

LEADERS IN MOLDED PACKAGING

MACK MOLDING COMPANY, INC.

MAIN STREET, WAYNE, N. J.



Particularly notable is the reproduction of design on the covers of these boxes molded of urea and produced by means of beryllium copper molds

able for the exact purpose in mind. It must be remembered that the molds are really the stock items. The containers to be made from these molds are not in any sense ready-made. They can be as different from the original boxes for which the molds were made as the imagination of the manufacturer will allow.

In the first place, plastics permit a wide range of colors and color combinations which are in no way limited by stock molds. If an original box and cover were produced in red or black, there are literally hundreds of color combinations that can be used to make the new boxes appear as different as though actually designed for the current user. It is also possible to make boxes of one color and covers of another. Or the cover can be made of plastics and the box itself of another material. Then, too, there are inlays, either of metal or another color of plastic material, which offer innumerable ways of changing the appearance of a box from that of its predecessor from the identical mold.

If a comparatively long run is contemplated, trade names and trade marks may be hobbed into the mold to be used for the cover, producing an entirely individual box with identifying name of the product or manufacturer. Inlays, especially, offer an attractive means for product identification and they may be accomplished either by inserting stamped metal inlays in the mold when molding or by hobbing the marks of identification in the original mold and then plating with metal by electro-plating methods. These recessed identifications marks may also be wiped in with contrasting color if the expense of inlays would be avoided.

The re-use value of plastic containers must not be overlooked nor underestimated. Their smooth lustrous surface and the permanent nature of their construction preclude any chance of their being discarded as soon as the product which came in them is removed. Women, and men too, find many permanent uses for an attractive box and almost all of these plastic boxes, available from stock molds, have been carefully designed with this thought in mind. It is one of the greatest recommendations for the use of plastics in container construction. This one advantage is frequently responsible for the choice of the item at the point of sale. There are amazingly few instances where the extra cost of a plastic box has not justified the additional expense when total volume of sales has been tabulated.

Some molders have spent considerable time and money in perfecting cream jars, powder boxes, rouge boxes, lipstick containers and allied items for the cosmetic trade. Others have developed clever moldings that serve in the re-use capacity of cigarette boxes or ash trays and the like, cleverly designed and thoroughly useful both for packaging appropriate items of merchandise and in after use. Then there are other molded items which were originally planned for the retail trade and which, through their familiar appearance in retail stores at a rather substantial price, add obvious value to the merchandise they contain when they appear as a package, without cost to the purchaser.

Another advantage to the manufacturer who is in a position to choose a design from a stock mold is prompt delivery. To make a mold of steel, grinding and tool-



Give your gift packages and re-use containers the added sales appeal of CATALIN . . . exquisite colors . . . brilliant lustre . . . plus ease and economy of manufacture.

When packaging ideas break, you'll find CATALIN ready . . . ready with a countless selection of sheets, rods, tubes and special shapes that so closely conform to your ideas that simple fabrication steps speed the design to swift completion.

CATALIN castings are so varied, as to make unnecessary the need for expensive mold investments in launching original packaging ideas!

The use of CATALIN is assisting many manufacturers in the creation of modern packages. The items shown are but a few of its sales-appealing applications.

Catalin

AMERICAN CATALIN CORPORATION
ONE PARK AVENUE • NEW YORK

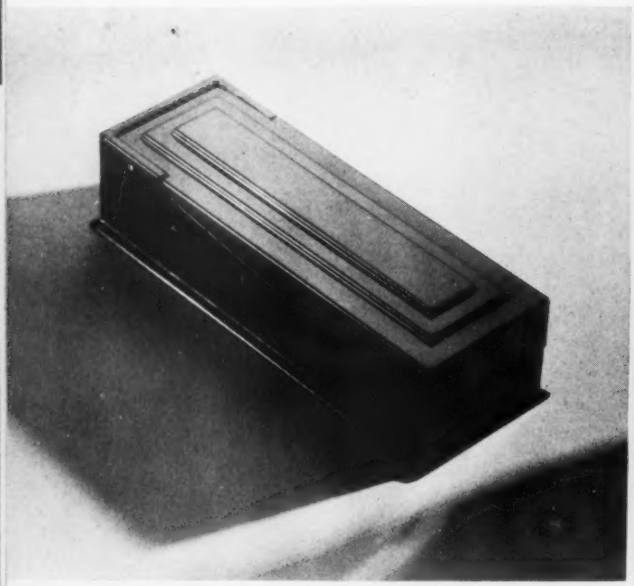
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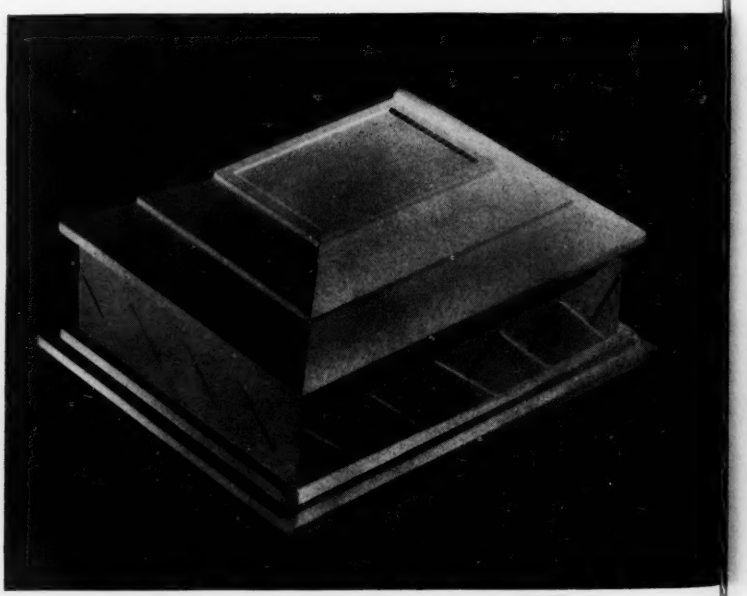
ing it into shape and hobbing in special designs takes time. Weeks, and often months, are required to finish a mold of this sort. But the manufacturer who finds a mold that is satisfactory for this purpose among stock molds has only to wait for a chance to get the mold onto a press and production begins at once. Not only that, but he has the opportunity of seeing exactly what kind of box or container will be delivered when production begins. Samples are almost always available, and the manufacturer can look them over, choose one that meets his requirements of size and price, and if he chooses to do so, can order a hundred or so for test purposes in obtaining sales reaction before he orders the quantity he will eventually need. Of course, in small quantities of one hundred, these boxes will cost more than in larger quantities but, even so, the expense is often justified by the satisfaction of knowing in advance just what results can be obtained. Sample boxes or containers from a specially designed mold are often very expensive because a single cavity mold must be made and finished and this cost must be absorbed by the manufacturer before any boxes are produced. Changes and corrections are likewise expensive. But when containers are made from stock molds that have already been proved, these annoyances and additional expense are entirely avoided.

Since molds of steel are good for exceedingly long runs of production without appreciable fatigue or wear, there are many of them throughout the country that have served their original purpose and are stored away in molders' shops. Because one of them might have been designed to produce boxes in which safety razors were sold is no reason why it is not equally suitable to hold another product now that the razor is no longer merchandized in that kind of box. Many of these boxes can be fitted with interior compartments at small additional cost and become entirely individual to the merchandise they now contain. Especially is this true if color combinations are changed from those used in molding the original box.

Light and dark colors can be molded from the same mold. Even the cover and bottom of a box may be molded in different colors with the same operation although this requires some ingenuity on the part of the molder and is not usually done. Lighter colors add somewhat to the cost of the box—black, dark brown, green, red and mottled being among the less expensive colors of molding materials. Another thing to be remembered in ordering plastic moldings from stock designs is that this places no handicap upon the buyer in choice of materials. These boxes are not ready-made. They are in no sense old stock. When a manufacturer orders boxes or other items from stock molds he has the privilege of specifying the exact materials he wants used in molding his boxes. This is particularly important in ordering boxes to be used for creams, powders and other cosmetics, and the advice of your molder in the choice of materials should be taken seriously.

The illustrations numbered and described show many of these available containers, but it is suggested that possible users send for samples of any that are considered so that the accuracy of measurements can be checked to be sure those chosen are the kind and type of moldings wanted. Molders will welcome inquiries and cooperate with every assistance they can possibly give in helping to choose the right plastic package for a particular product. New stock molds are constantly being added to the list as quickly as they have served their original purposes. Keen buyers, with an equally keen sense of imagination, have saved themselves many dollars in mold costs in the past. Stock molds have opened the way to many manufacturers to become plastic users for the first time.





Stock molds of various sizes and shapes are available to the manufacturer who does not feel justified in going to the expense of a special, individual design. The two shown above are suggestive of many others which may be obtained

SECTION 9

DISPLAYS

pages 298–318

COUNTER DISPLAYS
WINDOW DISPLAYS
FESTOONS AND WINDOW STREAMERS
FLOOR STANDS
METAL AND WIRE DISPLAYS
PLASTICS DISPLAYS
ACTION DISPLAYS

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COUNTER DISPLAYS

by MERLE D. PENNEY

COUNTER DISPLAYS afford the manufacturer his last chance to be of real help to the retailer in inciting purchases, influencing buying decisions, and *Building Sales*. Let's jump right into the middle of things and point out the ideal circulation enjoyed by counter displays—it's close to 100 per cent positive circulation. With few exceptions, all who enter the retail store do so with the full intention of making a purchase. There they stand, in a buying mood, money in hand, intent upon exchanging their cash (or credit) for some personal, family or household necessity or luxury.

What an audience! Where else can you find a medium that has the opportunity enjoyed by the counter display to direct its sales story to an audience made up entirely of prospects with *immediate* interest in buying something.

Counter displays offer the dealer an incentive and an excuse to place the product right out front on his counter, instead of stacking it away on a shelf. And when products are placed out on the counter where they are within arm's length of the shopper to be picked up and examined, sales jump, and jump to several times the total that prevails when goods are kept on the shelf. A product that stands on the counter in conjunction with a counter display that carries the right type of appeal for that product, and a message of interest to shoppers, has an edge on all other products not so displayed.

The retailer and his clerks, even though they be endowed with the best of intentions, cannot push every one of the thousands of items that go to make up the stock of the store—it is a physical and practical impossibility. The counter display takes the place of this "plug" or sales assistance by the dealer.

To shoppers' roving eyes the message on the counter display says: "Here is the product you heard or saw advertised on the radio, or in a paper or magazine or on the highways"—"Here is the product that Mrs. Jones was talking about so enthusiastically"—"Here are the reasons that it is so good"—"Here are the ways in which it can be used"—"Pick up the product and examine it while you are waiting." And, with the product in the prospect's hand, the sales message and illustrations on the counter display have more than an even chance of provoking the shopper to speak those four words that are music to the ears of the retailer: "I'll take this, *too*." Thus are sales made and product-turnover speeded.

Watch a woman doing her shopping. When all items are accounted for and the retailer says: "Anything else?" watch that glance to right and left to make sure that she hasn't forgotten some item that she needs. That is another time when the counter display has a







Top: Lithographed counter display in which product is shipped to the retailer. Lower: Actual package inserted in counter display. Right: Two-tier effect when display container is in locked position



The Most Complete

DEALER DISPLAY CAMPAIGN

To Introduce a Can!

Created for Anheuser-Busch, Inc., in collaboration with D'Arcy Advertising Company

THE MOST complete dealer display campaign for beer in cans—and one of the most distinctive and distinguished in the entire history of the brewing industry—has just been launched for Budweiser Beer.

It is not only an outstanding example of far-sighted merchandising on the part of both the advertiser and agency, but shows how powerfully a new package can be "put over" at the crucial point of contact in making the actual sale.

1—Patented Double-Faced Flange Sign

2—Metallic Foil "Reflector" Display (Pat. Pending)

3—Double Flasher De Luxe Display with celluloid glass

4—Giant Can Display Stand (Pat. Pending)

5—Triple Flasher De Luxe Display

6—Window Display with 3-dimensional Can in gold

7—"Jumble Tray" Floor Stand (Patent Pending)

For effective merchandising of your package (new or old) call in—

• EINSON-FREEMAN CO • INC • *Lithographers*

LONG ISLAND CITY, N. Y. • *Phone: IRonsides 6-8900*

XUM

"ENCORE!"

for MOTION-*plus*-LIGHT

So successful have been the first applications of the "motion-plus-light" display device, pioneered by Einson-Freeman, that it has already been "encored"—in some cases, twice—by practically all advertisers who used it. One reason is that it offers their better outlets both a genuine incentive to *buy* more and a potent "plus" to sell more.

You can literally offer the same basic display to all dealers, yet split up your list—according to volume or location—into three classifications, with distinct attractions to each! How? Simple!

"Class A" Dealers
get the display PLUS motion and light.

"Class B" Dealers
get it with light (on-and-off flasher).

"Class C" Dealers
(or run-of-mill) get the display alone.

And if the display is a sound *selling* display to start with, they will ALL do business. Each class will be satisfied. The cost to you will be little more, BUT results and sales will soar!

Ask an Einson-Freeman executive to tell you how some of America's leading advertisers are using this new principle to make their dealer list really *produce!*



Dentist's arm in small lower picture, and enlarged hand above, swing simultaneously and light flashes behind "round-end" photo as hand points to it.



Hind leg of dog scratches rapidly and light behind eyes blinks in time with scratching.

Creative Lithography for Advertisers

EINSON-FREEMAN CO., Inc.
LITHOGRAPHERS, Long Island City, N. Y.

chance to get in its work, and remind of forgotten needs, and to incite impulse purchases.

Products have been introduced locally and nationally, quickly and economically, by no other means than counter displays. The factor of selective circulation—the ideal selective circulation enjoyed by counter displays—undoubtedly accounts for these successes.

Kinds of Counter Displays

A glance around a few retail stores will quickly reveal many kinds of counter displays; yet these may be classified under a few general types:

The plain counter display card, lithographed or printed, that stands on the counter by itself, or with a pile of product packages. The lithographed or printed counter card that has a quantity of the product packages attached to the face of the card in any one of a number of ways—with rubber bands, with metal clips, held by die-cut tabs, fitted into die-cut openings, etc.

A counter diplay so designed and constructed that attention is focussed immediately upon packages that are an integral part of the display itself. Along this line a number of clever constructions have created an illusion of a product pouring from the package, and other apparent action, without the expense of actual mechanical movement. This type of display also permits featuring a product package with some descriptive booklets or folders; or a combination deal of two or three similar or related items.

Display baskets in which the product appears in a jumble display that invites inspection and self-service, particularly to those people who are reluctant to disturb an orderly arrangement of the product on the counter. The display basket usually is shipped to the retailer folded flat, in the shipping container that carries the product, and the retailer quickly sets the basket on the counter and tosses in the product. The complete ensemble of an inviting jumble of product packages with the sales story on the large back panel of the basket presents a product story that cannot be overlooked.

Metal racks are another form of counter display—a permanent form of display that can be used where it is not essential that there be more or less frequent changes of style or of product story and illustration.

Novelty counter displays on which some device gives the shopper something to do—something to twist or move—will hold his attention while he is awaiting his turn with the clerk; and all the time he is fooling around with this device he is exposed to the selling message on the display.

Practically the same factors that influence decisions regarding the size, scope and number of displays to be included in a window display program will apply equally well in arriving at the proper Counter Display program to be followed. More important among these are:

1. *The product.*
2. *The market.*
3. *The retail outlets.*



Top: Display basket ties in window display and radio broadcasting program. Center: Merchandise with display—lithographed counter card with bottle, which holds die-cut arrow forward. Lower: Display basket carries same pictorial as window display

4. *Budget.*
5. *Tie-up with other media.*
6. *Tie-up with window display.* Here is a tie-up that has been found to be very effective, and in many cases the same pictorial is used on the counter display that appears on the window display; and when window displays are changed, a corresponding change is made in the counter display.
7. *Timeliness.*
8. *Merchandise with display.*
9. *Seasonal factors.*

While the copy on counter displays need not be as brief as poster or window display advertising (where the

XUM



Upper: Counter card holding tubes of product. Lower: Lithographed counter card which ties up pictorially with window, display. Right, below: Three packages are set in between the front and back planes of this counter display

message is directed at a moving audience), it should not be too long. There should be a fast reading identifying element, and then there can be more leisurely copy and illustrations, for the information of the shoppers who desire to know more about the product.

The construction of a counter display can be novel but it must not be complicated—quick and easy set-up by the retailer is essential. The average retailer has too many demands for his valuable counter space to bother too much with complicated counter displays that fray the nerves and excite the temper. And, because of that tremendous demand for counter space, the counter display must be possessed of the quality, attractiveness, and striking characteristics that will enable it to win out against all the other Counter Displays that are fighting for a prominent front-line position on the counter.

Distribution and Checking of Counter Displays

There are various methods available for proper distribution of counter displays, such as including it in the shipping containers with the goods; delivery and set-up by retail sales force, or display service organizations, offering by direct mail, and advertising the counter display material in trade papers. The proper method for any particular product will depend upon the many factors entering into the merchandising of that product.

If counter displays are the only advertising and promotion being used, the matter of checking their effectiveness is comparatively simple. The sales as compared with sales prior to the time the counter display was put into use, give a true indication. Even though other forms of advertising are being used, the effectiveness of counter displays may still be gauged by careful and intelligent checking. Manufacturers operating a large retail sales force have a means at hand for this checking, but probably the surest way of getting positive results is to employ the services of some research company who have the personnel and experience necessary to obtain an accurate evaluation.

Any checkup on results of counter displays should give full consideration to other ways in which that product is being promoted at that time. And, of equal importance careful note should be made of promotion being put behind competitive products in the testing territory during the same period.

In closing, counter displays offer the manufacturer a medium of reaching his buying public when they are in a buying mood, when they are prepared to exchange, *immediately*, coins for commodities.

Bear in mind at all times, the counter display has two jobs to do: First, sell the dealer on its fitness and potency to deserve a portion of that choice and valuable selling space on the counter; and then, when comfortably occupying that prominent position *down front*, it must successfully compete with other products and other displays for the shoppers' money. Counter displays should be conceived, created, developed, produced, and distributed accordingly.



NOT HOW MUCH *HOW WELL*

LABELS BOXES AND ADVERTISING DISPLAYS

If you are a manufacturer who fe
need of outside help on package
we'd like to study your problem
tell you frankly either

1— how we can help

2— why we can't
find us frank to make
can service you better

A letter, teleg
put us into action.



HOWELL of ELMIRA

F. M. Howell & Co., Elmira, N. Y.

NOT HOW MUCH *but* HOW WELL

LABELS BOXES AND ADVERTISING DISPLAYS

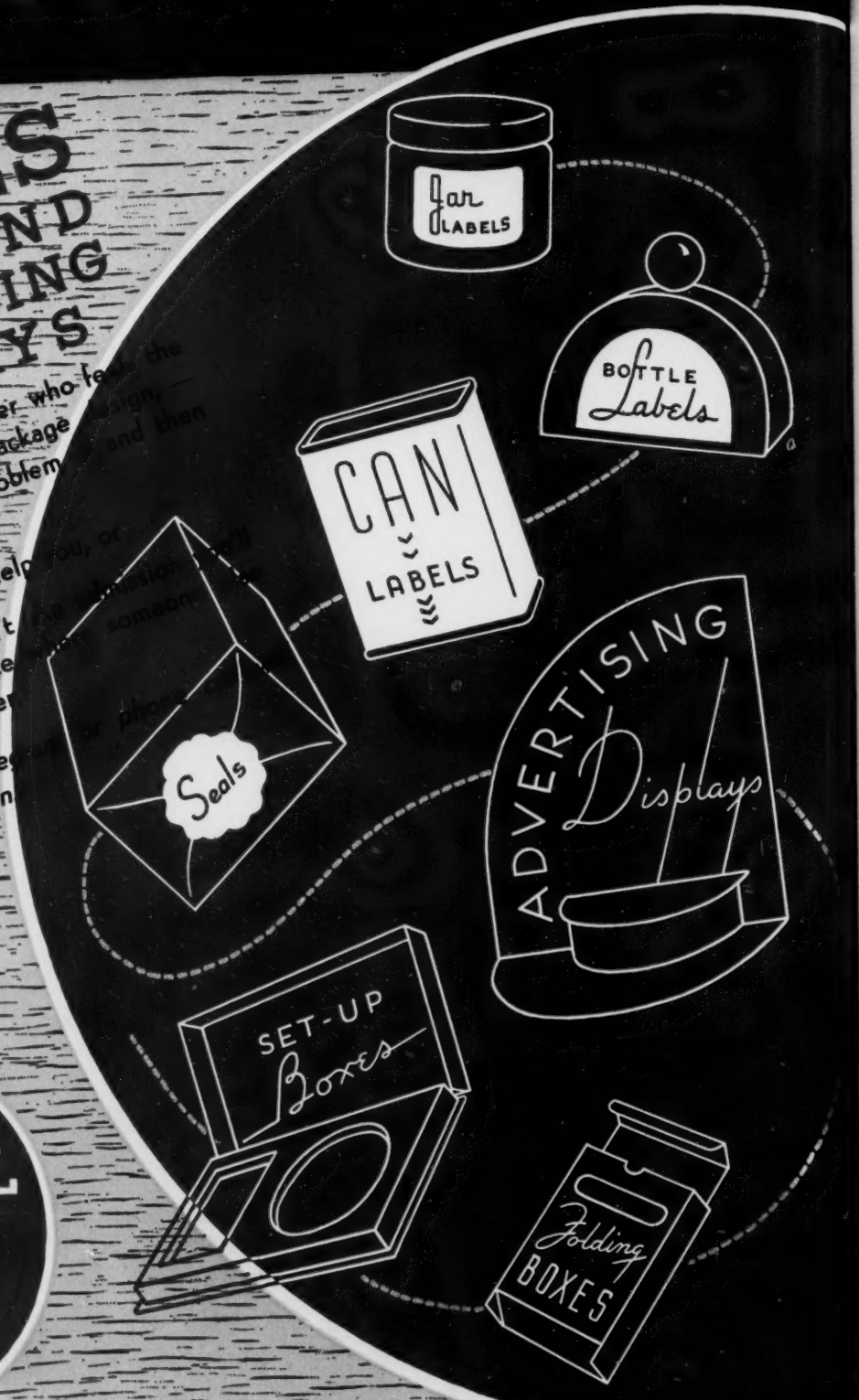
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need of outside help on package ... design,
we'd like to study your problem ... and then
tell you frankly either

1.— how we can help ...

2.— why we can't ...

find us frank to make ...
can service you better ...

A letter, tele... or phone ...
put us into action ...



HOWELL of ELMIRA

F. M. Howell & Co., Elmira, N. Y.

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WINDOW DISPLAYS

by MERLE D. PENNEY

HASTILY planned, poorly executed and carelessly distributed window displays have no place in present-day merchandising activities. Retailers have long since passed from seekers to choosers—unhesitatingly discarding the majority of meaningless displays they unwillingly receive in favor of those few, deliberately planned to sell merchandise, which they genuinely welcome and use.

The merchandising director of a successful manufacturing company recently pointed out some obvious but often-overlooked facts that emphasize the all-important place the retailer occupies in the field of distribution.

Wholesalers and retailers alike buy products *to sell at a profit*. Consumers, on the other hand, buy products not to make a profit but to *satisfy some human desire*—protection of loved ones, to be in style, to attract the opposite sex, for enjoyment or to satisfy physical appetites, etc. Competition for the consumer's dollar is not confined to one product or line—it runs the gamut of bare necessities to valued luxuries—a constant battle between the "must" items and those greatly to be desired.

The retailer's problem is two-fold: (1) to buy products on which he can make a profit; and (2) to so present them that profitable numbers of consumers will see, want and buy them. The manufacturer who seeks the cooperation of the retailer will profit by planning all of his "point-of-sale" promotional material so that it will help the retailer accomplish this dual objective.

Window displays offer the manufacturer a real opportunity to provide the retailer with the sort of help that will work to their mutual advantage.

As far as the retailer is concerned, the displays in his windows have little waste circulation. They are directed to the people who travel on the sidewalk in front of his store and those who enter the store—all immediate prospects of the retailer. These people are his "readers" and with window displays he is able to keep his windows filled with up-to-the-minute shopping "news," news that will influence the purchasing desires and intentions of these "readers," by pointing out purchases that can and should be made simply by turning into the store.

Window displays provide the means for the retailer to "set his stage" for his audience—the "props" that he could not purchase individually. The manufacturer is able to purchase display material in sizable quantities and thus employ the services of skilled advertising men and display manufacturers of outstanding ability; men and organizations whose experience and contact with modern merchandising fit them to create and produce forceful displays that possess real selling power.

There are many ways in which a window display can, and must, serve both the manufacturer and the retailer:

1. Appeal to the retailer as being sufficiently attractive, outstanding and forceful to deserve and win a part of his valuable window space.
2. Stimulate the interest of the retailer and his clerks in that product during the time the display appears —fostering their good will and cooperation.
3. Command the attention of the passing shopper by any one of a number of means: size, comprehensiveness, attractiveness, domination, unusual design, motion, startling display effect, etc.
4. Develop points of interest that will hold the attention long enough to incite a favorable product interest, and exert an influence on buying action.
5. Impress the observers with the quality and desirability of the product.
6. Remind of forgotten needs, or intended and desirable purchases.
7. Act as a stop-gap, by reminding of the product during the interval that elapses between the time the advertising message is seen in other media and the time the purchaser stands in the store asking for the product—a period of time during which many factors may influence a change of mind and of purchasing intention.
8. Build a cumulative effect of repeated showings to shoppers, circulating about that and other areas, in their travels to and from work and shopping.
9. Tie-in with advertising in other media, supplementing the other advertising by emphasizing the high spots and illustrating the message in an attractive and colorful manner.



A lighographed "blow up" of the girl's head—enlarged from the same pictorial on the display baskets—is the attention-getter for this modern display. Note also the "jumbo" cartons at right and left of the display

10. Introduce new products quickly and economically, when other media don't seem to provide the same selective type of promotion that is inherent in window display advertising.
11. Provide a cooperative means by which retailers can sell more of their complete line. Several instances of this have appeared recently with results most gratifying to retailer and manufacturer alike.
12. Win a place inside the store—after it has been taken from the window, on a top shelf or back bar and for continued influence on buying action.

In planning for window displays, there are a number of factors which will affect decisions on both the complete display program and the individual displays:

1. *Product:* The product itself; its nature, size, appeal, length of usefulness, demand, etc.
2. *Market:* Class of trade to which appeal is directed will influence copy and general quality of the display.
3. *Retail Outlets:* The type of retail stores and the attitude of certain classes of retailers toward window displays, determine the comprehensiveness of the display.
4. *Tie-Up with Other Media:* Window displays can be created to tie up with, and supplement advertising in other media.
5. *Merchandise with Display:* The display can be designed to provide the dealer an opportunity to incorporate the product in the display, or to offer related products as deals.
6. *Budget:* The percentage of total advertising budget to be set aside for display advertising is a vital factor. The average for all industries at this time is about 10 per cent—in some a little less, in others considerably more (over 30 per cent in the tobacco industry).
7. *Change Intervals:* How often will new displays be put out? Result desired, and budget, will determine.

Merchandise with display. Window display designed to hold actual packages of several related products, thus directing the attention of the passerby to an entire line



8. *Seasonal Factors:* Is the product a seasonal item; is it in more or less regular demand; can sales be stimulated by putting on a seasonal push?
9. *Sizes:* Some manufacturers have found it advantageous to issue the same display in two different sizes, to accommodate varying window sizes—others have their displays made up of a number of pieces, to make the display adjustable to different window restrictions.

After it has been decided to use window displays, and for what particular purpose they are to be employed, many of the factors considered in planning for them will govern the display specifications.

The basic sales appeal must be decided upon—the line of attack.

Then determine the display idea that will best fit the situation, and the most effective way of presenting that idea to the buying public—by illustration and by copy.

The copy must be fast reading because it is being directed to people who, on an average, take only seven steps in passing a store window. If an illustration is used it must be unusual and outstanding in its particular nature—beautiful, humorous, startling, educational, seasonal, etc.

The art treatment should be in keeping with the nature of the product, the class of trade, the type of retail outlets and the trend of the times.

The physical or mechanical construction of the display should be practical, above all things; then, keeping the matter of practicality always in mind, it should be unusual, unique, clever, striking. Construction that places a strain upon the retailer's ingenuity and temper to set it up must be avoided.

Attention getting devices can be worked into the display—light, mirror effects, illusions, motion, etc. Bear in mind, however, that these effects increase the unit cost of the display, necessitating greater total expense or smaller coverage. Certain conditions will warrant such devices, others will not. Simplicity of design, and distinctive treatment of effect will many times prove most effective.

Economy in display production, without sacrifice of quality, is important. Proper consideration of display sizes and shapes as they relate to economical production is of the utmost importance.

Distribution of Window Display Material

It is not enough to pass through the throes of creating and developing a window display of just the type and adaptability that will successfully perform a specific merchandising job, and then broadcast these displays indiscriminately throughout the trade in the smug, self-satisfied conviction that *your* display—your baby, as it were—is the one display of importance in the lives of your retail distributors.

Retailers are getting hundreds of unsolicited displays each year, so poorly conceived and badly executed that they get but a cursory glance from the retailer and are consigned unused to the cellar or the rubbish barrel. However the presence of these poor displays should but

FACTUAL APPRECIATION





ONE QUARTER OF THE FORBES PRESSROOM—SHOWING A BATTERY OF *new* HIGH-SPEED PRECISION 2-COLOR AND 4-COLOR LITHOGRAPH PRESSES

WE appreciate and treasure the long and continued patronage of advertisers in all circles of industry.

We could write volumes expressing this appreciation. Instead, we prefer to let our actions bespeak our sense of responsibility toward present and future client relations.

With unwavering confidence in the future of the American people . . . in American Industry as a whole . . . in each loyal client . . . we have, during recent months, greatly augmented our staffs of creative and productive artists, and have replaced photographic, process, lithographic and other productive equipment on a tremendous scale.

We understand FORBES now has the largest battery of new high-speed precision single- and multi-color lithograph presses under one roof in the world.

That is FORBES' factual expression of appreciation of loyal client patronage and confidence.

FORBES is ready to serve better and faster . . . to provide more and better creative and merchandising ideas, and to maintain FORBES superior quality with faster production.



Creators, Designers and Producers of:

POSTERS · DISPLAYS · CAR CARDS
CALENDARS · BOOKLETS · FOLDERS
PACKAGE INSERTS · ART PLATES
CARTONS · LABELS · WRAPPERS
STATIONERY · PRINTED CELLULOSE (in Rolls and Sheets)

LITHOGRAPHY
DIE STAMPING
LETTERPRESS
CELLULOSE PRINTING

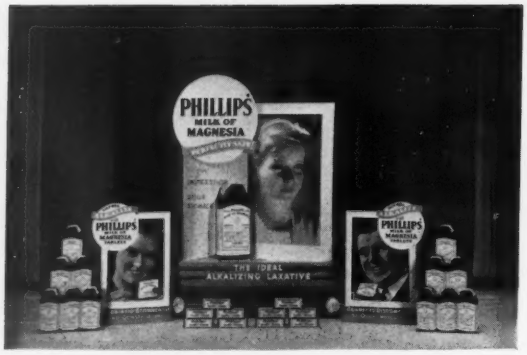
FORBES

THE SHOP BY THE SEA

LITHOGRAPH MFG. COMPANY, P. O. BOX 513, BOSTON, MASS.

NEW YORK · PHILADELPHIA · ROCHESTER · CHICAGO · DETROIT · CLEVELAND

CONSULT FORBES FOR CREATIVE COOPERATION





Above: The intelligent use of large lithographed heads provides a simple yet effective three-piece display. Below: Seasonal applicability of product is featured, together with packages, in this display

emphasize the importance of making *your* display a selling tool the retailer will welcome and use to your mutual satisfaction and profit.

Properly promoted and intelligently distributed window displays will appeal to the retailer as a piece of product advertising that it will pay him profits to use.

The type of product, the extent of territorial coverage, the size and comprehensiveness of the displays, the quantity, the retail problems in that industry; all these should enter into a consideration of the proper method of display distribution.

Shipping the displays in the same container with the goods has proven very successful. In other cases, installation by professional display service organizations has been found to be the answer.

A large corps of retail salesmen is a "natural" for proper and effective display distribution. The salesman not only can personally see that his display is used, and used properly; he can, if desired watch the results and check with the retailer.

Another method of window display distribution is thoughtfully planned trade paper advertising to the retailers, showing what display material is available, its nature, what it is designed to accomplish, and how to get it. Another way, of course, is to contact the retailers by direct mail, furnishing return postcards on which the retailers can request the display material. Requested display material gets put up—there's no question about that.

Offering window display material with deals is another method; however, one that should be pursued with a great deal of caution and good judgment. There are a great many retailers who are bitter against some particular manufacturer who, through an attractive appearing deal, loaded them with a lot of slow-moving merchandise, and the supplied displays suffered too.

Informing the retailer just how to set up the display, and what to include in the window with the display, is an important phase of distribution. An instruction sheet tipped on the back of the display, carrying an illustration of an interesting window arrangement with the window display in place, and an actual listing of suggested products to include in the window with the display. Pasting one of the instruction sheets on the outside of the window display container indicates to the retailer just what is in the container and the desirability of making a place for that display in his window.

No specific rules can be laid down that will fit every individual display program. No one display ever can fulfill *all* the functions of display advertising. A window display program developed with the fundamentals kept constantly in mind *will* produce results.

The circulation enjoyed by the medium of window display reaches a total far beyond the realization or conception of most advertisers. Tests in the past have indicated this large circulation, and also have indicated a surprisingly low cost per thousand of circulation.

Extensive scientific research, now being conducted, is sure to develop more intelligent and greatly increased use of window display in the very near future. The National Window Display Research now in process, sponsored by the Advertising Research Foundation of the Association of National Advertisers and the American Association of Advertising Agencies, and by the suppliers and installers, as represented by a committee from the Lithographers National Association; and being carried out under the supervision of Dr. Miller McClintock, director for Street Traffic Research, Harvard University, and John Paver, who was an important factor in the development of the Traffic Audit Bureau, Inc., is a step in the direction of bringing more exact information alike to producers and users of window displays.

It is intended that this survey shall provide advertisers with: A classification of different types of retail outlets; a guide for the accurate selection of window display space; a definite formula for circulation evaluation, and a reasonably accurate index of the cost per thousand of window display circulation.

Window displays, like other profitable advertising media, require careful thought and study. Those built to meet the needs of the retailer will succeed—to an ever larger degree as more and better facts are made available through this research and others to follow.

Aggressive DISPLAYS *by* "US"

85% of all "Dealer-Push" is good point-of-sale DISPLAYS

YOUR window displays . . . counter displays . . . ALL of your Sales-spot advertising . . . are much more than last minute appeals before purchases are made.

They tell the public . . . your dealer's customers . . . that the dealer is promoting your product, your brand.

More than a reminder of your advertising . . . they are an expression of your dealer's confidence in YOUR product.

How important, that they arrest the eye . . . awaken desire . . . persuade the prospect!

There is no "if" about it. All products sold in retail stores depend on dealer-push . . . point-of-sale advertising . . . for maximum success. That's why it is highly important that you choose a dependable and experienced source for display materials.

Co-ordinated sales-spot advertising by "US" will help you get better dealer co-operation . . . more aggressive dealer-push . . . more sales. There's a "US" office near you.



NEXT PAGE . . .
a special message
to ADVERTISERS

The UNITED STATES PRINTING & LITHOGRAPH COMPANY AND DIVISIONS . . . . . .

HOME OFFICE: CINCINNATI, 328 BEECH STREET

SALES AND SERVICE OFFICES:

ATLANTA
BALTIMORE
BOSTON
BROOKLYN
BUFFALO
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
(Dearborn Station)
ERIE, PA.
INDIANAPOLIS
LOS ANGELES
KANSAS CITY
MILWAUKEE
MINNEAPOLIS
NEWPORT, KY.
NEW YORK
PHILADELPHIA
PITTSBURGH
SAN FRANCISCO
SEATTLE
ST. CHARLES, ILL.
ST. LOUIS

★ AMERICAN LITHOGRAPHIC DIVISION
★ ATLANTIC LITHOGRAPHIC & PRINTING DIVISION
★ DONALDSON LITHOGRAPHING DIVISION
★ ERIE LITHOGRAPHING & PRINTING DIVISION
★ PALMER ADVERTISING SERVICE DIVISION
★ W. F. POWERS DIVISION
★ THEO. A. SCHMIDT LITHOGRAPHING DIVISION

XUM

You invited her to come in..

ARE YOU THERE TO GREET HER ?



AFTER distribution, comes the long pull for favorable consumer action. In the magazines . . . on the air . . . you say "VISIT OUR DEALER". But, when your prospects enter the store, are they greeted with a colorful reminder of YOUR product . . . a persuasive sales message that recalls a decision to buy?

The vital "other half" of your marketing program is your follow through at the sales spot. "U S" and its various Divisions produce 42 different types of sales-spot advertising and merchandising helps . . . Unified Service that co-ordinates your point-of-sale promotion. Call a "U S" representative and talk over your sales-spot problems with him.

The UNITED STATES PRINTING & LITHOGRAPH COMPANY AND DIVISIONS . . . . . .

HOME OFFICE: 314 BEECH ST. . . . CINCINNATI

SALES AND SERVICE OFFICES:

ATLANTA
BALTIMORE
BOSTON
BROOKLYN
BUFFALO
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
(Dearborn Station)
ERIE, PA.
INDIANAPOLIS
LOS ANGELES
KANSAS CITY
MILWAUKEE
MINNEAPOLIS
NEWPORT, KY.
NEW YORK
PHILADELPHIA
PITTSBURGH
SAN FRANCISCO
SEATTLE
ST. CHARLES, ILL.
ST. LOUIS

★ AMERICAN LITHOGRAPHIC DIVISION
★ ATLANTIC LITHOGRAPHIC & PRINTING DIVISION
★ DONALDSON LITHOGRAPHING DIVISION
★ ERIE LITHOGRAPHING & PRINTING DIVISION
★ PALMER ADVERTISING SERVICE DIVISION
★ W. F. POWERS DIVISION
★ THEO. A. SCHMIDT LITHOGRAPHING DIVISION

XUM

FESTOONS AND STREAMERS

INCREASED COMPETITION among formal, and oftimes expensive, displays for a mere showing suggests the possibilities of including certain minor forms of dealer-helps in the well-rounded display campaign.

Many stores use festoons, banners and streamers for special anniversary sales, holiday bargains and other like events. Taking this one step further, national advertisers have seen an opportunity for reminder and goodwill messages, lithographed in full color and die-cut in interesting forms, which are prominently displayed in spaces not ordinarily occupied, such as on the backs and sides of show windows, walls, fronts of counters, over soda fountain bars and suspended from ceilings or stretched overhead from one wall to another.

Three jobs these display items effectively do are:

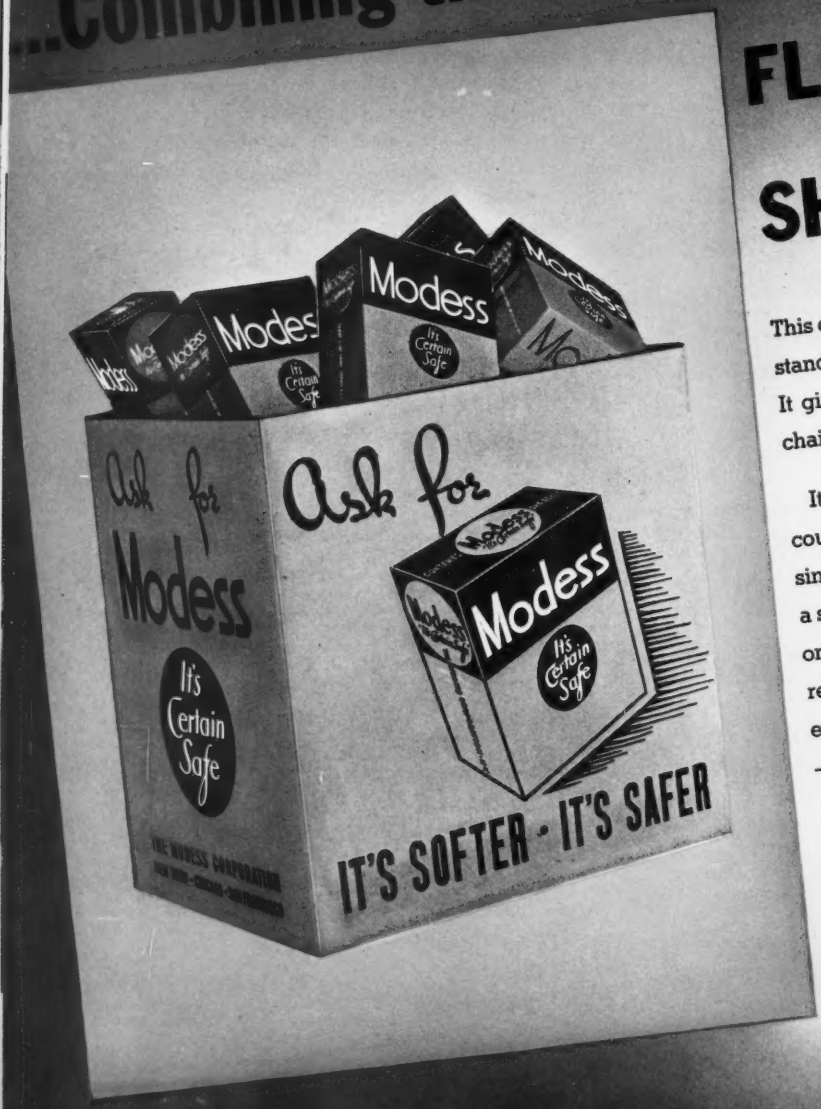
1. Call attention to different items in the same line, such as the Hoffman Real Fruit Beverage festoons which feature the various flavors.
2. Stress certain features, such as ease of opening, carrying and disposing of tins shown in the Horton Beer festoons.
3. Presenting the product with associated items, such as the Krispy Crackers banners featuring soups, fish, cheese, jellies with the slogan "They all taste better with," or the Hoffman Beer pendants showing cold cuts, cheese, pickles and breads for midnight "snacks."

The illustrations show the interesting possibilities of this medium. Samples shown are furnished by courtesy of The United States Printing & Lithograph Company.



...Combining the Best Features of Both

FLOOR DISPLAY SHIPPING CASE



This combination shipping case and display stand ought to be called, "Buyers' Delight." It gives you two units in your distribution chain for practically the cost of one.

It starts with your shipping case—adds a couple of notches in the top flaps—then a single extra corrugated pad—and you have a sturdy rigid floor display. Pile your goods on top so that they tempt customers—leave reserve stock stacked in the case. It is as easy as that for the retailer to set up and use —and make believe he doesn't appreciate it.

Lots of products can use it as effectively and economically as Modess. Increased customer interest resulting from point of sale display has proved it.

Gair specializes in floor displays—has introduced many of the most successful types —and by special patented features has brought their cost down to the point where they are an economical sales aid for virtually all products.

Wire, phone, or write. Use the coupon below.

ROBERT GAIR Co., Inc.
155 East 44th Street, New York.

Gentlemen:

☐ Send me full data about Gair display stands.

☐ Have your representative visit me at.....

(ADDRESS).....

(FIRM NAME).....

(YOUR NAME).....

ROBERT GAIR COMPANY, Inc.

155 East 44th Street **New York City**

GAIR COMPANY CANADA, Ltd.
TORONTO, CANADA

FLOOR STANDS

THE ART of displaying merchandise on the counter has almost reached the stage of an exact science. Competition for the comparatively small space available has been so intense that only the most efficient designs can remain there for any length of time. This means that the successful counter stand must be able to fight for the retention of its place through every hour of the day. Even so, the increasing number of brilliantly successful counter displays has resulted in a serious congestion of this area.

The need for expansion has therefore directed the attention of alert merchandisers to other areas and the aisles themselves have proved to be gold mines for this purpose. Fundamentally, the idea was not so new, since grocers have always recognized this instinctively and have tried to capitalize it by such makeshift methods as building up pyramids of canned goods in the aisles or by constructing home made stands from empty wooden boxes covered with colored wrapping paper. Incidentally, one of the large biscuit companies recently made the grocer's problem easier by furnishing him with printed sleeves which can be slipped over discarded containers in place of this colored wrapping paper.

What is the buying psychology that makes a floor stand so successful? Briefly, the answer might be given in the form of a Hollywood synopsis running something like this: Lady enters store with definite mental or written shopping list. As she passes threshold, her eye is caught by some unusual or striking feature on a new floor stand. Stand is located directly in her path so she stops to examine the merchandise displayed. Remembers mention of product in radio program or magazine advertisement. Takes one of the items in her hand for closer inspection. Likes its feel and appearance. Tells nearby clerk she will try one of them.

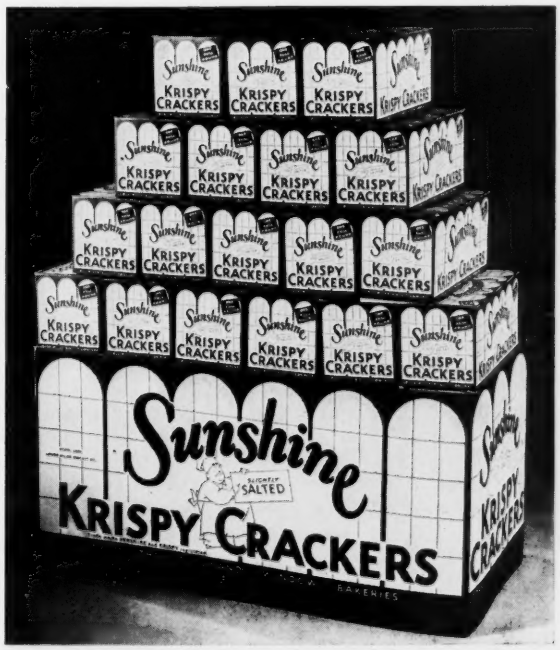
Thus 90 per cent of the sales battle has been won. If the product has merit, there will probably be indefinite repeat orders as the average housewife is hard to change and continues buying her accustomed brands, especially if part of her purchasing is done over the telephone. If the product does *not* have merit, it had no business occupying that valuable floor space. Naturally, the fast action recounted in the above synopsis only takes place after the most careful preparation by the dealer, the producer and the designer of the stand.

The retailer can only use one or two stands in his aisles without causing congestion. He can, however, push other styles directly against the walls and pillars. The stand, itself, must be something out of the ordinary. The "island" styles are printed on all sides so that any panel looks like the front panel. Moreover, this "gets them coming and going."

A perfect example of attention-value is a recently produced hexagonal corrugated island stand with recesses all around the sides, part way up, in which cans of scouring powder were inserted. The result is so spectacular and unusual that no one can pass it the first time without stopping. Other cans are dumped indiscriminately in the top tray. Another somewhat similar one is the Heinz octagonal island display, the top tray likewise given over to a jumbled display of a dozen or more cans of baked beans. Both of these displays champion the merits of the scattered or disorderly array, their sponsors feeling they encourage consumers to handle the goods and thus sell themselves, whereas with the formally ordered display the passer-by may hesitate to disturb the harmony of a complete unit by picking up one of the items, thus losing a possible sale.

The size of the stand should be carefully worked out. If too wide or too high the dealer will begrudge so much space. Many of the large self service grocery stores have worked out definite limitations as regards size. These stores such as the Piggly Wiggly, Big Bear, George W. Loft, and the Trading Posts depend entirely on display in selling their enormous volumes and, therefore, are specialists in this field. Dawson's Trading Post, for instance, will not permit a floor stand to exceed 54 in. in height. This is the largest self service grocery store in the world, catering to 50,000 customers in a week.

Floor stands may be generally placed in two major classifications, as follows:



Forming the base of this display is a printed sleeve placed over a wooden egg crate

1. Those made of corrugated or fibre board, many of which are readily converted from shipping containers into floor display stands, by the dealer.
2. Those designed exclusively as displays, usually lithographed, which are delivered to the dealer flat, without any effort made to have them serve as shipping containers.

Because of the evident economies of using one unit for the double purpose of a shipper and a display, a frequent question that has been raised is "How can a regular corrugated or solid fibre shipping container be made into an effective floor display?"

Up until recently about the only answer to this inquiry was to suggest printing diagonal lines along the two side panels of the box with an instruction to the dealer to cut along these lines and fold back to make a sloping, two-step display. This had several disadvantages. In the first place, too many others were using the same idea. Then, the average grocer resents having to do all this cutting, especially if the box is made of solid fibre. Finally, if he is not careful, he may damage the contents with his knife, and when he gets all through, the display isn't anything to rave about. Incidentally, this idea is covered by a patent, although not many of the users seem to realize it.



Popular style of convertable corrugated shipping container and floor display in which products are displayed in a recessed tray

The last two years have seen several effective, simple and ingenious new methods for converting a regular slotted carton into a stand. The first of these new moves was to add an extra crease in the center of the four top flaps. After the goods were removed the top flaps were folded all the way in and the lower halves brought back at right angles by bending the extra crease in reverse.

This formed a recessed tray which was supported by a large slotted partition extending to the floor and packed, knock-down, in the filled case. This partition, however, contained several square feet of board and was therefore quite expensive. The next step was to provide a slotted pad which not only made a smooth tray bottom but also served to lock the flaps firmly together, leaving the lower portion of the box empty. A later improvement was to crease this pad in the center so that one-half of it could be raised up in order to get at the balance of the contents in the box, as those in the tray were sold. This permitted the stand to be used for storing goods as well as displaying them. No blue prints are necessary for setting this stand in position.

Another style of convertible stand has diagonal creases in the top flaps, which are folded in web formation for shipment. When the sealing tape is cut, the top almost forms itself into a sloping display shelf. Practically no instructions are necessary.

A popular corrugated floor stand now being used in grocery stores for displaying oyster crackers is of this type. The top flaps of the shipping container are folded in on a diagonal crease or score in such a way that they form themselves into a top tray for displaying the transparent bags. A partially cut section in the rear panel can be opened up into a hinged hand hole for removing additional bags to replace those sold from the open display. A dog biscuit display stand is made to operate on a similar principle except that the box is laid on its rear panel with the diagonal flap in front, forming a sort of cornucopia opening from which the bulk biscuits are dispensed as they are purchased.

In addition to these convertible types there are many straight floor display stands, made of corrugated and fibre board, varying from simple pedestals with open top trays to elaborate multiple stands, which can be attached to each other until a regular counter has been built up. Often the center section consists of an arch extending to the floor which breaks the monotonous lines of a solid front. While using corrugated board in their construction they may be made solid, sturdy and good looking, although in comparison to the convertible types they are higher priced, involve some complications in assembly and sometimes take up too much floor space to be extensively used.

The accompanying illustrations show a few of the many lithographed display stands now in use, sponsored by well known national advertisers. These are produced in all sorts of designs, usually in a number of bright colors, the paper sheets being mounted on heavy solid fibre, which can be die cut into any desired shape. The exponents of the lithographed floor display stand contend that their sales medium is greatly superior to other forms, due to the fact that through presentation of the sales message using illustrations and in full color they secure larger, more immediate and more convincing consumer attention, as well as winning over store owners who have demonstrated their willingness to give them preference, because of their high character, colorful interest and greater effectiveness in making sales.

NIAGARA LITHOGRAPH COMPANY

BUFFALO NEW YORK CLEVELAND CHICAGO

DISPLAYS

BOOKLETS

FOLDERS

CALENDARS

CAR CARDS

INSERTS & WRAPS

THE POWER OF NIAGARA

While there is a great deal to be said in favor of this line of reasoning it must also be borne in mind that lithographed floor displays are necessarily more expensive. If funds are available and distribution is effected through the larger stores, where competition for display space is almost as much a battle as between products, it would seem obvious that the most effective display stand possible to secure would prove the most economical in the long run. However, when distribution is largely confined to the smaller stores, the convertible shipping container and display stand will permit coverage of a wider number of stores, with due allowances for bringing out something new and interesting by the time the novelty has worn off of the previously used stand. It would seem, therefore, that each type has its advantages and applications, and selections will best be determined on the basis of individual facts and conditions.

Regardless of the materials used or the method of reproducing the copy message, it is of primary importance to design floor stands so that they will *sell merchandise*. They hold a unique position in retail store merchandising for they are placed out in front of the counter, mixing right with shoppers, prior, during and following purchase of the "demand merchandise" which brought them into that store to shop. This preferred display position places the product within easy reach, immediately suggests picking up one for detailed examination, and is an opportunity few shoppers can resist. Thus by the combined appeal of the display stand and the product a definite sales stimulus is provided that moves merchandise quickly and profitably off the stand, out of the store and into the consumer's home. The popularity of the serve-yourself principle, so widely used in the merchandising of consumer goods, simply means that consumers like to see and feel the goods they are going to buy, both of which are effectively accomplished by floor displays, which annually make millions of individual sales without effort or attention from clerks.

From the standpoint of art design, there are conflicting opinions as to how this should be carried out. Some users want the stand to resemble the product both in shape and color. Note the lithographed Cain's Mastermixt Mayonnaise stand made to resemble a giant jar, and the mass display stand lithographed in full color to represent bottles of Clicquot Club Ginger Ale, with a top rack which holds seven actual bottles of the beverage. Others take the opposite view and claim that the use of contrasting colors on the display make the displayed product stand out better, such as the Cal-X Water Softener corrugated stand. This, however, is a matter of personal choice, or of considering each specific problem separately. It does seem, however, as though there is a tendency just now to show a facsimile of the product either in repeated natural size, or in a single giant reproduction, this being taken as one more means of implanting in the consciousness of the consumer a mental picture and familiarity with a manufacturer's package.

Students of display merchandising know that its success is due to what they call "impulse buying." To prove this theory with actual figures, the DuPont Cellophane Company recently made a survey which indicated that 62 per cent of all women shoppers buy on impulse, and that 42 per cent of all purchases made nowadays are bought impulsively.

According to a recent test, conducted by an outside research organization, in three metropolitan areas, a lithographed floor stand increased sales on an average of 56¾ per cent for a beverage in a highly competitive market, showing the effectiveness of this medium. The makers of display stands maintain creative departments well qualified to show manufacturers how to adopt their products to displays of this nature.

The following manufacturers cooperated in the preparation of this section: The Forbes Lithograph Mfg. Company, Robert Gair Company, Inc. and The Hinde & Dauch Paper Company.



Cain's Mayonnaise and Clicquot Club Ginger Ale lithographed floor stands, made to represent giant jar and mass display of bottles, respectively, Cal-X corrugated stand uses colors contrasting with those shown on the cans, which are placed in the top tray. The Heinz corrugated stand, made in octagonal shape, allows self-service from all sides

METAL DISPLAYS

SIGHT APPEAL has become one of the most powerful factors in selling. The store of today, with its rapid turnover, is no longer the slow-moving business place where the storekeeper or salesman can spend an hour with each customer. Once again, therefore, necessity has mothered invention. In this case, it has fostered amazing strides in the development of practical, profitable store displays made in various kinds of metals.

If a product can exist and be sold in a limited way without being packaged, so also can it exist and be sold



Ingenious metal display which gets electric irons out in plain sight on the counter and effectively demonstrates current and money saving advantages of this product to the consumer

without the aid of a display stand. However, modern conditions have demonstrated that a product will sell much faster when in a proper container, and better still if well displayed. So that it has been well established that a display stand offers an opportunity to give the final inducement-to-purchase in a merchandising program which is planned to promote the sale of a product—and by far the greater number of products thus displayed are packaged.

The designing and manufacturing of lithographed sheet metal or wire display racks has been studied and developed to a high degree of perfection, and has kept pace with the constant improvements in the packaging of products. In the past two years attractive and economical metal display racks have been developed for almost every type and kind of package from a fly swatter to a hot water bottle. The racks provide displays for products that it would be impossible to display in any other way, and it would be out of the question to get the merchant to display the product unless an easy and attractive method was provided.

The statement is often made: "We will have to have a high-class display rack, for our merchandise is high-class and goes to a high-class trade." A nickel-plated or gold-plated rack will not sell high-class merchandise or any other kind of merchandise. Remember that you are not selling racks—you are selling merchandise off of the rack, and if your package is attractive it would sell best if suspended in mid-air, without any rack or anything to detract from it. The more you can get your merchandise out in front of your display fixture, the less you can see of your fixture; the better your product is displayed, the more you will sell of it.

The making of metal displays is closely related—in materials, in methods of fabrication and in machinery used—to the manufacture of metal cans and closures. Yet unlike these two fields, peculiarities inherent to shape, size and usage keep metal display production on a much more specialized and much less mechanized production basis. While closures and cans tend to fall into definite categories, each involving a certain sequence of



Metal display combining storage, display and work bench features in one compact unit successfully used by over ten thousand dealers

IN CLEVELAND

Specializing

AIR BRUSH
SILK SCREEN PAINT PROCESS

Recognized leadership in the creation of inside Store, Counter and Window Displays entails a responsibility which UNITED DISPLAYS again more than adequately fulfills.

Careful experiments, skilled craftsmen and the adoption and development of proven methods in Air-Brush-Spraying and Silk Screen Paint Process has lifted the UNITED DISPLAYS to an enviable position among Window Display Creators and Builders.

Air brush spraying on corrugated papers in multiple colors will soon be tops for inexpensive window displays.

UNITED DISPLAYS

DESIGNERS AND BUILDERS
ANIMATED AND ITINERANT DISPLAYS

428 SUPERIOR AVENUE, WEST
CLEVELAND, OHIO

INSTALLATION SERVICE FROM COAST TO COAST



Getting products usually hidden in drawers out on open display is successfully accomplished by this drug store metal display

fabricating operations, metal displays vary so greatly in size, form and purpose as to make each display a distinct production job requiring the working out of special plans and schedules and special cost estimates.

The infinite variety of metal display types can best be appreciated when consideration is taken of the different base materials that go into such displays. Readily available are varying weights and thicknesses of tinplate, steel, aluminum, chromium, copper and cadmium plating forming the primary material. These are usually worked up from sheet stock. In addition, many displays are constructed, in whole or in part, of various types of wire or rod. Two secondary materials of great importance, in many instances, are glass and mirrors. In the latter case, this might be of glass or of chromium or copper plated metal. Finally come the various finishes, varying from the widely used lithography process—by which extremely fine color effects can be obtained—to the spray painted and silk screen types.

Whether or not the original idea for a display or display stand is conceived in the mind of the producer or of the product manufacturer, the first step toward production involves design. Here a number of seemingly conflicting considerations must be related to each other and balanced before further progress can be made. Since the primary purpose of the display is to show the merchandise to advantage, the designer must consider the size, shape and color of the packages or products to be displayed, their use, the amount of space most likely to be available in stores selling the merchandise, the type of space (wall, shelf, counter, window, street or floor), the probable lighting conditions likely to obtain (important in deciding color schemes) and the probable length of time during which the display will serve.

When these considerations have been balanced to the satisfaction of the manufacturer who will use the display a model is usually made up by hand, being as exact a reproduction of what the finished display should look like as it is possible to make. While this merchandising development has been going on, the display manufacturer has been simultaneously working out the problem of materials, fabrication methods and costs. Since displays can vary almost infinitely in size, elaborateness and function, this element of cost-finding becomes even more important than in the case of the more simple package elements. For, should costs be ignored even in part, the designer will undoubtedly slip far from his moorings with the result of a completely impossible design.

Because of these considerations, it is even more important than usual for the manufacturer who employs an independent designer to insist upon his working in the closest coordination with the design and cost experts of the metal display fabricator.



Lithographed metal floor displays are popular with all kinds of retailers for they facilitate the profitable showing of otherwise hard-to-display, bulky products. Are readily equipped with shelves, bins and cabinets to accommodate a wide variety of related products or varying sizes

Most metal display stands are fabricated out of lithographed sheet stock, the decoration being applied by offset lithography onto flat metal sheets which have been coated with a primer or undercoat of some kind. These metal lithographing presses are essentially similar to those used in the lithographing of metal closures though they may sometimes be of larger size to accept the larger sheets used. No design is too intricate or in too many colors to be applied on metal in this fashion; the one limiting factor being the element of cost.

After the application of each color or coating the sheets



Metal displays, either stationary or rotating, keep small products, such as gauze and bandages, in an orderly arrangement on the drug store counter, constantly reminding consumers of important items which are easily forgotten, and encourage immediate, self-service purchases



THE ANSWER: Orpco Mass Display Units

Sales executives find the answers to their questions in Orpco Mass Display Units. These stands are attractive, economical and strong. They ship knockdown, assemble easily.

Orpco Mass Display stands are made in many different styles, and include styles to suit your product. Large and small manufacturers from coast to coast have used them. Orpcos have carried trademarks and slogans right out on the floor of nearly every grocery and drug store in the country.



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★ *Here are a few of the manufacturers for whom Orpco Mass Display Units do a real selling:*

Lever Brothers Company	McCormick & Co., Inc.	The Andrew Jergens Co.
Colgate-Palmolive-Peet Co.	The Best Foods, Inc.	Gold Dust Corporation
Proctor & Gamble	Borden's Sales Co.	Owens-Illinois Glass Co.
Hoberg Paper & Fibre Co.	Independent Grocers Alliance	Westinghouse Electric

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are baked in an oven at a high degree of temperature. These ovens, usually of the conveyor type, are similar again to those used in baking the lithographed closure sheets. After the final color has been applied and baked, it is customary to apply a finishing coat of varnish which is likewise subjected to the baking process.

The sheets then move on to die-cutting machines, large presses which cut away the unwanted metal and leave the blanks neatly punched ready for assembly. In spite of the heavy pressures necessary in this die-cutting, the finish is not marred because the baking has made it hard and durable and because it is firmly held to the metal by the primer coat.

Further forming operations then follow, varying with each special display, and final assembly, involving bolting, riveting, insertion of glass panels, attachment of wire hangers, insertion of spring or electric motors (in moving or animated displays), etc., takes place.



Wire display racks are economical in cost, yet sturdy in construction, and are extremely useful in the orderly showing of small packages which are hard to stack on shelves. May also be made to hang on wall brackets or used as seasonal counter displays

In the case of simpler displays or of large displays containing little color variation or printed message, another method is sometimes followed. Here the display is first die-cut from plain, uncolored, unfinished metal and assembled in this state. The finished assembly is then spray coated with paint very much in the manner in which automobile bodies are painted. Decoration or lettering is then applied by the use of silk screen stencils. While this is, of course, a more limited decorative process, a good artist can attain some amazing color effects in poster-like design with flat colors. Such display stands are usually made of welded construction, a process which is impossible in the case of lithographed displays because the heat of welding would destroy or permanently mar the lithographed finish. Wherever riveting or lugging together of various sections would be undesirable and wherever great strength is wanted (as in the case of large cracker-box stands) this spray-painting and welding process is used. A number of finishes can be obtained with paints or lacquers including bright, dull, crinkled, suede, etc.

Wire or rod displays do not usually involve the complicated operations necessary in other metal displays, the wire being bent or formed into the desired shape or forms and then welded. Frequently lithographed sheet metal cards and shelves are combined with the wire display to carry illustrations, copy and price data.

All kinds of metal displays fall into two major groups or classifications:

1. Single product mass displays.
2. Multiple product mass displays.

In this latter classification a full line of products may be displayed, or a choice given the consumer, as relates to: (1) range of sizes, such as 1/4 pint, 1/2 pint, pint, quart, half-gallon and gallon paint cans; (2) variety of flavors, as vanilla, lemon, orange and other extracts, colors, such as apply to dyes and tints, or kinds, as applied to spices; (3) grades of quality, as fancy and standard canned goods; and (4) allied, though individually different, products such as mayonnaise, tartar sauce, chili sauce and other condiments, or biscuit, cake and pancake flours.

While metal displays in a measure combine the advantages of all types and forms of display media there are several points which are highly individual characteristics and which are worthy of special consideration:

1. Strength and durability—once formed the metal display "stays put" without fear of its toppling over or breaking down even when weighted down with a number of heavy bottles.
2. Permanence of display—considered as a store fixture dealers frequently keep them working for months, although they pay for themselves in the first month.
3. Lasting finish—being impervious to dust, dirt and moisture they maintain their original lustre and attractiveness.
4. Orderliness—encouraging the orderly stocking and displaying of packages which are hard to stack or otherwise keep in sight.
5. Ease of placing—may be moved about serving alike as counter, floor, shelf, wall, window or sidewalk displays wherever the dealer chooses to place them.
6. Finished appearance—impressing the dealer with their worth and thus winning a preferred display space for themselves.

Capable of being formed in any shape, metal displays may be made in pyramided, circular, rectangular, tier and stairstep, angle or tilting forms and may be of the permanent stationary type or rotating, depending upon the particular needs of the product and its proper display for ready sale.

Customary practice favors three methods of distribution:

1. Given outright to the dealer as a means of keeping the product out on open display thus stimulating its sales and rate of turnover.
2. Given as a premium with a deal of some kind, such as a special assortment, a certain quantity or in return for some special dealer cooperation.
3. Loaned, either for a stated period, or with the understanding that upon sale of a certain volume of the product it becomes the dealer's property.



Builders

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BOTTLED BEVERAGES
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BRUSHES
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SOAP AND SOAP POWDERS
CANDY
COSMETICS
BAKING POWDER
CEREALS
FLAVORING EXTRACTS
COFFEE
FLOUR
CANNED GOODS (All kinds)
PICKLES
MACARONI
STOVE AND SHOE POLISH
PAINTS
BATHROOM SCALES
CHEWING GUM
NUT PACKAGES
CANNED OIL
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ALL-AMERICA 1934 *and* 1935

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THE WASHBURN COMPANY
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PLASTIC DISPLAYS

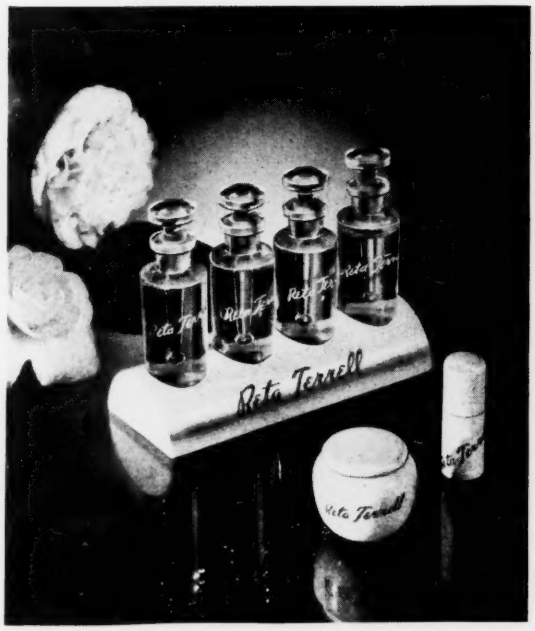
DURING recent years the displayman has found the list of materials at his disposal increasing rapidly. This is a natural sequence because the scientist and chemist have created newer materials which serve industry much better than others heretofore available. Plastic materials in various forms are becoming increasingly popular for certain types of displays, although they are not a cure-all for the displayman's problem. There are many places where they cannot replace traditional materials in the creation of effective displays. On the other hand, they offer many advantages and they should not be overlooked as a possible means of producing better and more effective displays and merchandising helps.

So many ask, "What are plastics? In what forms may they be found? What are their particular qualities and properties?" In speaking of plastics it should be realized that they are fabricated in a variety of forms. Some are molded plastics, some are laminated plastics and some are cast to form, later to be machined and polished. Chiefly, these are the plastic materials which can be used to best advantage in the creation of modern three-dimensional merchandising displays.

Although they have a combination of many properties and qualities, their most important general properties, so far as displays are concerned, are fine appearance, permanency of finish and durability. Consequently, the display designer who desires to create an atmosphere of quality and richness will find plastic materials ideally suited in many instances. Also, they may be used where a display is required to have long life with little or no maintenance problems—the first cost being the last.



All elements of good store display are combined in this setting of laminated plastic in green and dark brown and chromium trim



Counter sampler display holding four bottles and made from peach colored resinoid does full justice to the perfume which it shows to advantage

In their molded form (phenol or urea) plastic displays are produced in hardened steel dies by the application of heat and pressure. This process reproduces faithfully the contour of the mold. The piece comes from the mold entirely finished except for the removal of excess material where the mold parts come together. The finish, whether rough, smooth or stippled, depends upon the treatment given the mold surface. Color is a part of the material; therefore, the piece needs no further finishing for its completion.

For counter displayers molded plastics are becoming popular because they can be produced in large quantities at very reasonable cost. Relief effects, embossed designs, manufacturers' trade names and trade marks, and other insignia can be incorporated in the mold design. During the molding process it is also possible to include bright chromium metal inlay designs. These inlays become an integral part of the finished displayer and furnish a pleasing contrast with the lustrous finish of the molded piece.

One of the most popular forms of plastic materials for window displays, counter displays and display stands is laminated phenol resin. This material is fabricated by subjecting layers of resinoid varnish-treated paper to heat and pressure in a hydraulic press. It is produced in large sheets in a variety of colors and special designs. Here, too, the color is an integral part of the material. It is sturdy and can be machined in much the same manner


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THIN MINTS
TO MY VALENTINE
Mother
WRAPS
LABELS
DISPLAYS
FOLDERS
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PACKAGE
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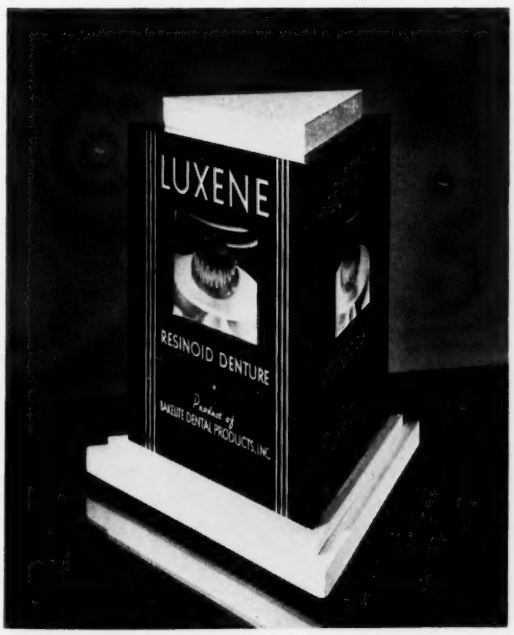


Examples of signs in which lettering and outline of trade marks are made to stand out prominently by strips of corrugated plastic inserted in slots made in the lithographed paperboard

as wood, although in structure it is much more dense. Sheets as thin as $^1/_{16}$ in. may be cemented permanently to a wooden base and also curved or bent. For displays which are to be subjected to constant wear or where liquids may be spilled, this material serves a double purpose, because it has a lustrous long-wearing finish and is unaffected by ordinary chemicals.

A third type of plastic which can be used for merchandise displays is cast to form. It is usually supplied in sheets, tubes and rods. It is easily workable and may be highly polished.

Among the most recent and effective uses of plastics in displays is that involving cellulose acetate plastic. In this instance, the plastic is made up into flexible strips or sheets about 0.020 in. thick which are again cut into narrower strips about $^5/_8$ in. wide before being employed in making signs or displays. Because of the relatively small amount of plastic required, the signs are comparatively inexpensive, especially when their high display value is considered.



An illuminated display of laminated plastics provides a two-way vision for easy reading of the message presented

In this application, the plastic itself forms only a relatively small part of the display. It is used to form or to outline letters, which stand out almost as brilliantly as if made from much more expensive Neon tubes, or for borders or accent lines, as may be required, whereas the remainder of the sign itself, which is the supporting background, is lithographed cardboard. The latter is merely slit where the plastic is to be inserted. When the plastic is in place, the outlines of figures formed glow brilliantly in contrast with the opaque cardboard.

Signs and displays made of this material are of two types. The "daylight" type makes use of natural daylight or of any other light that may fall on the plastic to cause it to glow and give it its luminous effect. In the second form, the sign is equipped with its own back light or lights (ordinary incandescent bulbs) hidden from view but so set as to cause the plastic to glow even more brilliantly than in the daylight form.

Colors available in the plastic used in making these signs include a brilliant cerise, similar to the common red Neon in color and brilliance, and a flaming yellow-orange. Displays and signs made in the manner indicated have gained considerable use and can be made in sturdy forms capable of long service. They are suitable for window displays, counter displays or other similar applications. They are available, of course, only from lithographers holding license to manufacture them.

These examples shown in the accompanying illustrations are suggestive of only a few of the vast number of potentialities for plastics in the display world. At the all-important point of sale they serve as a stage setting, enhancing the personality of merchandise, and they are admirably suited to convey an atmosphere of quality.

XUM

ACTION DISPLAYS

FROM times prehistoric, when danger lurked in moving things, man's primal instinct, self-preservation, has taught him to attend that which moves. Attuned to be alert, because of fast-moving objects encountered in modern daily life, men and women will invariably be attracted by motion of one kind or another. Because it is first necessary to arouse the consumer's attention before any further selling effort can be successfully instituted, the stimulating effects resulting from motion are of particular value and use in planning displays for store windows and interiors.

Many products, of specialized appeal, will by their mere appearance attract consumers in need of just such products. But many other products fall into the staples classification, in that they are advertised and displayed from one year's beginning to the next, with no romantic appeal about them to stimulate the desire.

To these staple products the consumer has become impervious, for while he may mechanically look he feels no buying urge. While the product manufacturer might be content to let his displays serve as billboards, creating multiple impressions which, over a long term, will influence and shape consumer habits, he must remember that the space granted these displays is paid for by dealers who must have tangible and immediate sales to justify their part in the investment.

Until a few years ago, motion as applied to displays was a comparatively small business. A few professional display organizations were able to built motion displays which would work, but the majority were hand made efforts, designed in a rather "trial and error" fashion, by amateurs. Since that time the business has made remarkable progress, and sources are now well established, mechanisms fairly well stabilized, and there is plenty of experience and ingenuity to work with anyone wanting to incorporate motion, in a display.

Carefully checked tests, conducted both by national advertisers and display manufacturers, have definitely established the fact that from four to ten times more people stop to look at a display in motion than when the identical display is not in motion. Their greater and more certain attention-arousing powers readily accounts for their getting into show windows, on crowded counters and other prominent locations which are denied to inanimate displays. But it would seem wise to add a word of caution at this point, namely, that while there is novelty and drawing power in motion, it must not predominate in a display to the extent that it will absorb the attention of the consumer to the exclusion of the advertising message. For since sales are the final objective sought in using any display, a motion display must lead the consumer's attention directly into the selling message. The one dominant feature in the product, which will serve for the motion display, may be very simple in nature and consequently cost little to dramatize in motion, or it may be quite complex and hence expensive. Often motion serves best to draw attention to the display, which supplies all that is needed, once that it is seen. In other cases the motion will dramatically convey to the consumer that one feature to be found in the product which is the reason why it should be bought in preference to all others. The working out of the proper motion will vary with different products.

Taking advantage of man's natural curiosity of things which are not readily apparent, a great many effective motion displays use some form or other of the optical illusion. Thousands have been stopped, time and again, to see and marvel at the miracle of a liquid being poured out in a continuous stream from a bottle, coffee pot or keg, suspended in the air, or to watch two spheres rotating without any visible means of support. Unfailing attention is given to the ball moving around on a disc, with no motivating power in evidence; the electric irons which suddenly appear and as quickly disappear apparently into space, or the effervescence of soap suds, constantly foaming with frequent bubbles bursting in the air yet nothing seen to cause this action.

While it is possible to secure almost any motion in a display, these fall into five general classifications:

1. *Vibrating* as represented by birds, candy pops or powder puffs vibrating in the air.
2. *Oscillating* such as man walking, swinging his arms and legs alternately; dog scratching fleas with hind leg; mechanic turning a nut with a wrench; rocking horse or ship motion; hammering a nail or beating a rug; or child being spanked by father.
3. *Indexing* such as airplanes in flight; serial views or parade of products; or salad ingredients going into mixing bowl, etc.
4. *Slowly rotating* turntables and rotating globes, pillars, drums, cylinders, cabinets and discs.
5. *Fast rotating* such as railroad train wheels or umbrella tops being twirled.

The motivating units for the hundreds of motion displays now in successful use are: pendulums; vibrators; solenoids; batteries; thermostats; rheostats; heat motors; electric fans; flashers; clock motors; electric motors, and complete units comprising everything necessary, ready to be attached to the display.

Those desiring more detailed information will find the book, "Display Animation," just published by Reeder-Morton Publications, 151 Fifth Ave., New York, gives a wealth of information as to construction, uses and illustrations of all types and kinds of motion displays.

SECTION 10

PACKAGING MACHINERY pages 320–402

ARRANGEMENT OF PACKAGING EQUIPMENT
TYPICAL INSTALLATIONS
PACKAGING DRY PRODUCTS
PACKAGING LIQUID PRODUCTS
CAPPING EQUIPMENT
LABELING MACHINES
AUTOMATIC WRAPPING EQUIPMENT
SEMI-AUTOMATIC WRAPPING EQUIPMENT
TIGHT WRAPPING EQUIPMENT
CARTONING MACHINERY
BAG PACKAGING
CHECK WEIGHING SCALES
COLLAPSIBLE TUCK FILLING EQUIPMENT
SHIPPING CONTAINER SEALING EQUIPMENT
STAPLING EQUIPMENT
PAPER BOX MAKING MACHINERY
FIBRE CAN MAKING MACHINERY
ELECTRIC EYE

REFERENCES: See all other sections for specific applications of packaging machinery

ARRANGEMENT OF PACKAGING EQUIPMENT

THE ease, speed and economies of modern packaging methods are largely influenced by the proper placement of equipment in the packaging plant. They represent a careful synchronization between the finished products, ready to be packed, a wide variety of materials used in the packaging operations and the available equipment—all working together so that there may be a natural and progressive flow of products from the very first manufacturing operations to the final shipping.

With the wide variations that exist, such as space available, the physical nature of the product, kinds, sizes and shapes of containers, and fluctuations in quantities, it is obviously impossible to lay down set rules which will apply in all cases. Packaging operations in one plant, for example, may be strictly confined to the packaging of a single product, such as soap flakes, in a standard size unit, utilizing a folding carton, or they may include the complications of the distiller who distributes his products in twenty or more states, each of which has its own requirements as to special labeling or packaging, which must be rigidly adhered to in order to avoid severe penalties or revokation of his operating license, involving over a hundred trade brands, packed in various sizes, in almost four hundred different individual packages, and requiring the efficient and speedy handling of orders for as many as eight thousand units in a single day's production.

Each machine set-up is bound to have its own peculiarities and specific difficulties which, while largely overcome by the manufacturer of the machinery before it is shipped to the customer, does not free the plant owner from responsibility in the location of the machines, or paying attention to matters of detail. In general there must be a scientific orderliness about the line up of the packaging machinery, all equipment being placed to produce maximum performance, under the particular and peculiar conditions in which it is used.

Having determined upon the actual packaging method to be used—whether it shall be entirely automatic or a combination of mechanical and manual operations—it is of the utmost importance to place the equipment advantageously in the plant, with particular attention paid to the product supply as well as the shipping department. Customary practice is to avoid as far as possible having all manufacturing, packaging and shipping operations on a single floor, it being found more economical and advantageous to segregate manufacturing operations to one floor, packaging to another and shipping to another, so that advantage may be taken of gravity flow production.

Most manufacturers have found that straight line production is the fastest, simplest and most satisfactory in packaging operations. However, when space is not available, it is entirely possible to group the equipment in progressive stages, so that by means of conveying equipment, the packaging line is kept efficiently moving in one general direction. Obviously if part of the packaging work is done manually it is essential to provide adequate room in which the operators may work; whereas with fully automatic operations, floor space is conserved, it only being necessary to provide enough space for regular inspection and adjustment of the machines.

While most packaging machinery is permanently located there are cases where it is necessary to provide for versatility and portability. Particularly is this true with manufacturers who vary their operations with the seasons, making and packaging one product during the cold months with a decidedly different one in the summer months. In this case it necessitates having equipment which is portable, so that it is possible to set up a temporary filling, labeling or wrapping line at any convenient point, avoiding extra handling, assuring quantity production and maintaining a well-trained group of operators, shifted from one job to another.

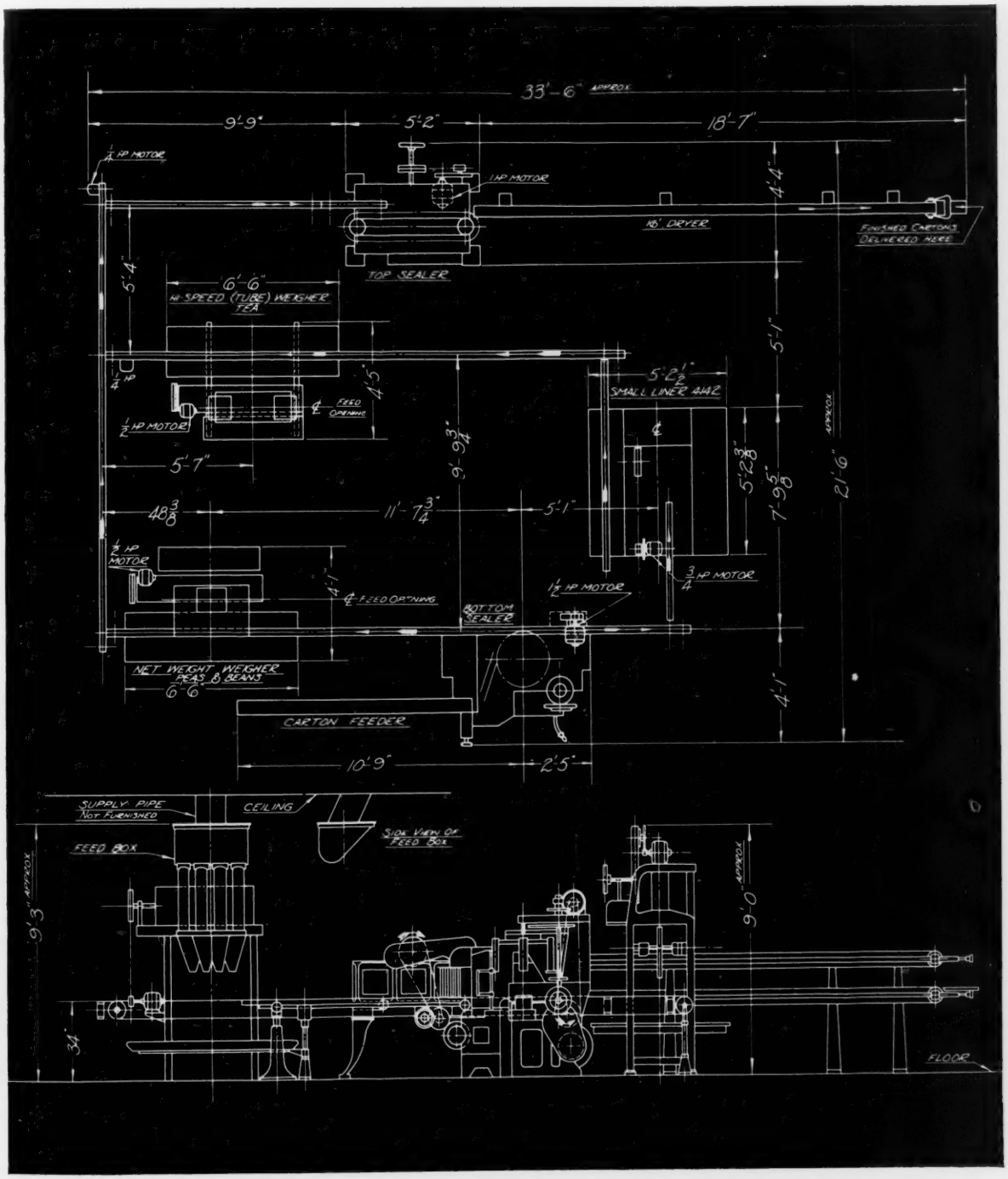
Floor areas and, to a considerable degree, wall space, should be efficiently utilized in the placement of the package production units as well as the conveying and motivating equipment, although in the case of the latter—particularly with modern machines—integral motors rather than belt drives are supplied.

The storage of materials and supplies used in the various packaging operations, while formerly—under low-speed operating conditions—was of slight importance, merits careful consideration today. Cans, bottles and other types of pre-formed containers are usually supplied direct from main storage points, being carried on individual conveyors or those which serve the dual purpose of bringing such supplies to the assembly units and removing the completed packages. In either case it is necessary to make due allowance for such conveying systems in the planning of space and placement, obviating wherever possible any unnecessary travel or inefficient use of power.

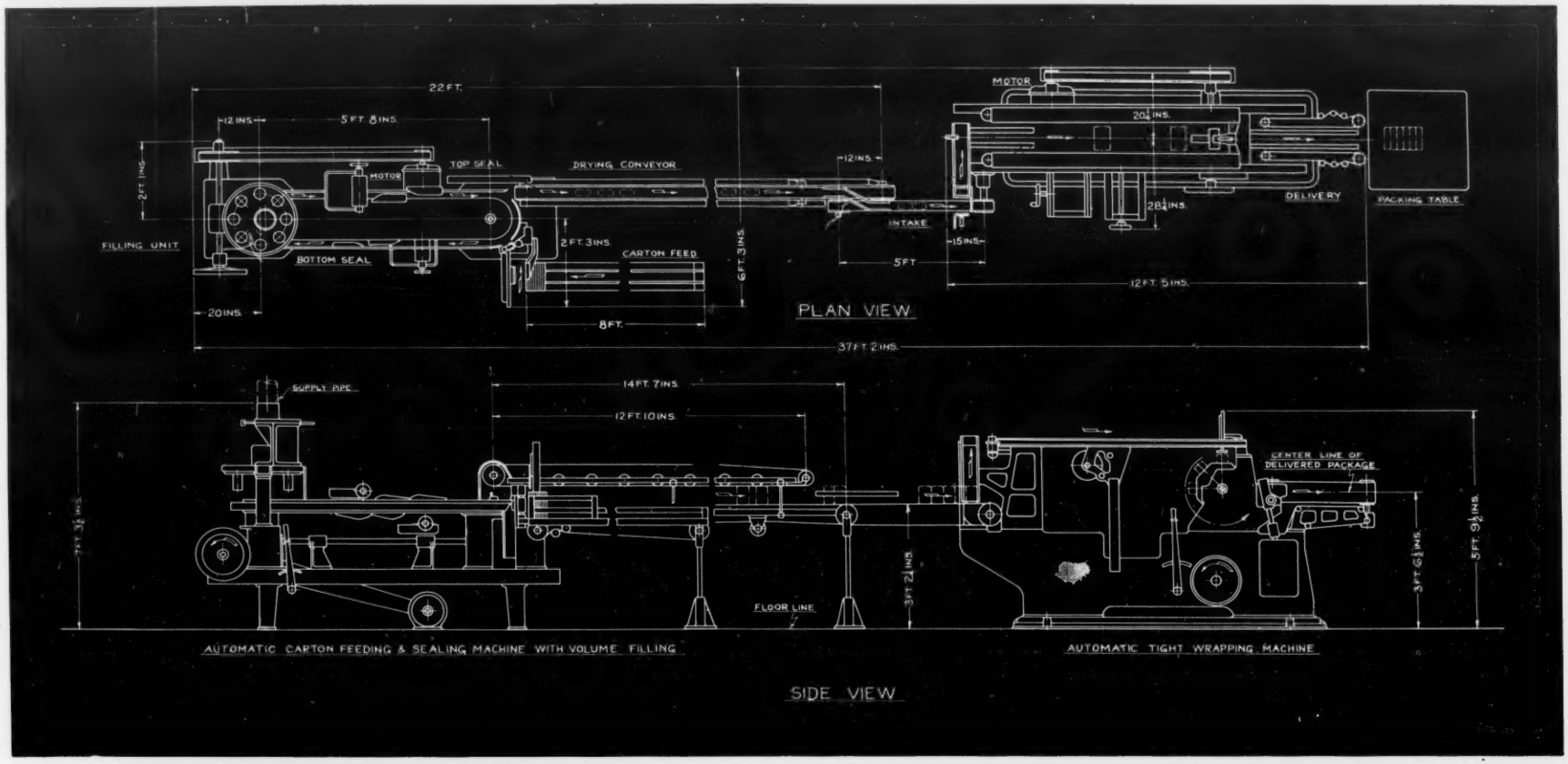
In brief, the rules which apply in any efficient manufacturing plant should be followed in the placement of packaging equipment. On the four pages following are shown several typical floor plans, with the dimensions given in each instance.

Many manufacturers permit visitors to study the placement of packaging equipment in their plants, and the engineering services of the machine manufacturers can be of inestimable help in planning the placement so that there will be no delays or uncalled-for extra handling, and efficient production be maintained to full capacity.

INSTALLATIONS OF PACKAGING EQUIPMENT



Floor plan and elevation diagrams of packaging equipment used on two different types of products; i.e., those requiring lined as well as unlined cartons. The carton blanks for both are supplied to the bottom sealer (see lower center of floor plan) and, after forming and bottom sealing, the cartons to be used proceed by belt to a net weigher. Properly filled, these are then conveyed to the top sealer for closing and, after passing through the dryer, are delivered to the packing table for placement in the shipping containers. This line, as stated on the floor plan, is used for the packaging of peas and beans or other similar products for which net weighing is suitable. Cartons which are to be lined, after being bottom sealed, are conveyed to the lining unit and from there proceed to a high-speed (tube) weigher. The filled cartons then join the main line of travel to the top sealer; from that point being delivered by belt to the packing table. Courtesy of Pneumatic Scale Corporation, Ltd.



Shown above in floor and elevation plans is a complete packaging line which includes an automatic carton filling and sealing machine in combination with an automatic tight-wrapping machine. This line would automatically feed the cartons from a supply, bottom seal them and fill them with the desired amount of material, filling through special adjustable measuring flasks arranged in a turret mechanism, particularly suited for free flowing products such as salt, sugar, soap powders, etc. After filling, the cartons are automatically top sealed and carried on a conveyor into the tight-wrapping machine where they are automatically tight-wrapped with the printed label and discharged ready for packing in the shipping containers.

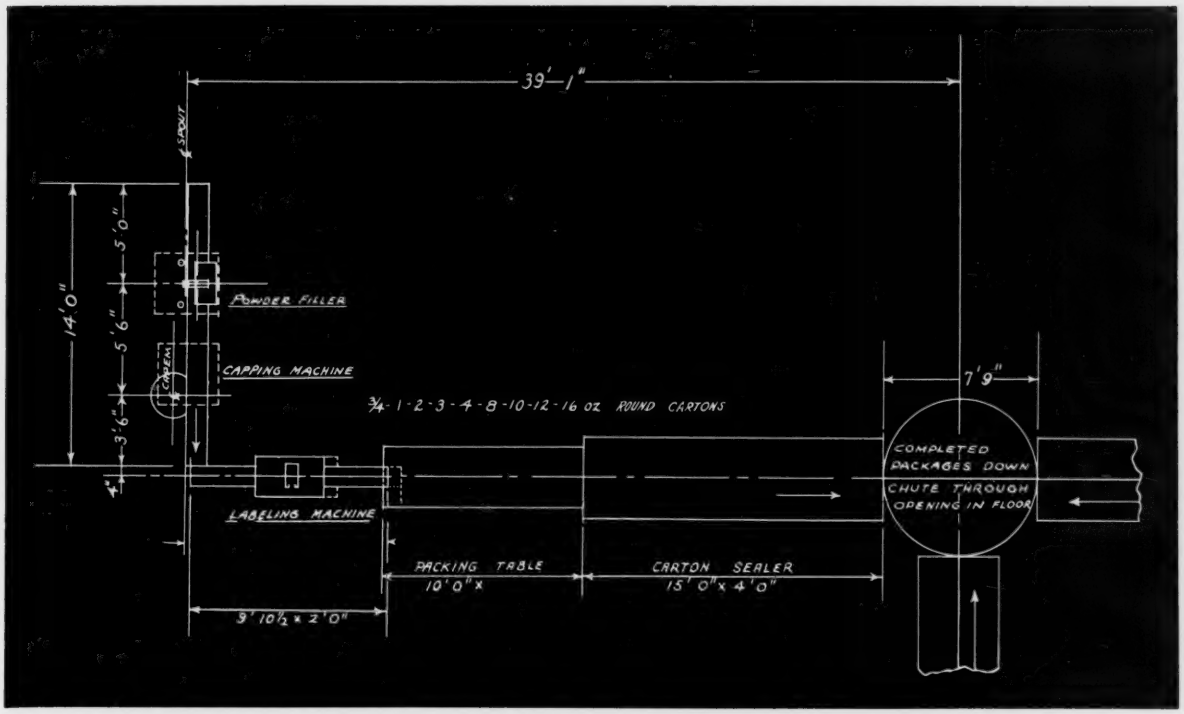
If a regular printed carton is used and not tight-wrapped then the same carton filling and sealing machine would be used without the tight-wrapping machine. This complete line has a production up to 60 to 70 complete packages per minute. The machines are made in various styles and sizes and are changeable or adjustable within certain limits. This drawing has been furnished through the courtesy of Stokes & Smith Company.

As may be seen, this plan assumes that ample room—an overall length of 51 ft.—is permitted. However, if less space in one direction is desired, it is possible to regroup similar equipment through a rearrangement of the conveying units. There are, of course, certain advantages to be gained in longer lines of travel, particularly between units which perform sealing or gluing operations and where a longer time for drying is found to be actually advisable.

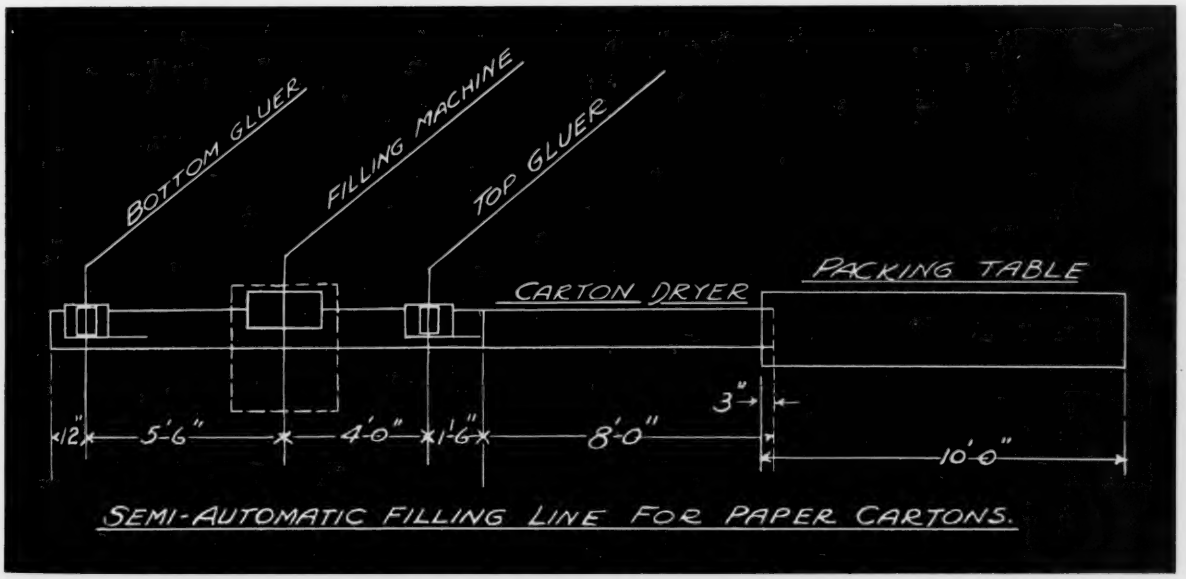
It should also be pointed out that packaging equipment should be placed advantageously in the plant, with relation to the product supply as well as to the shipping department. Customary practice, when all operations are not confined to one floor, is to segregate packaging on one floor situated between the products and shipping departments so that advantage may be taken of gravity flow production rather than to employ elevating equipment.

With very few exceptions, users of packaging equipment are not unwilling to permit visitors in their plants for the purpose of studying the placement of equipment. In addition to this source of information, the prospective user can always consult with his machinery manufacturers.

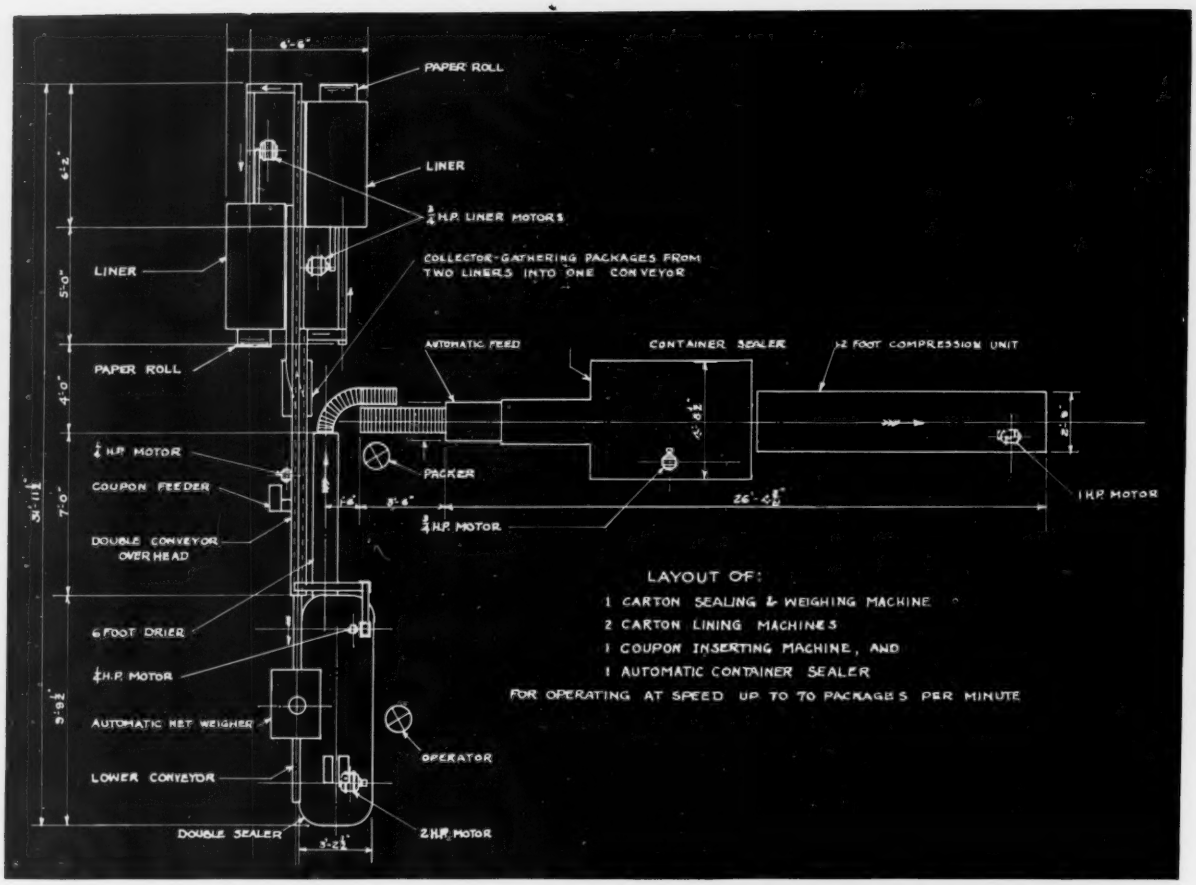
XUM



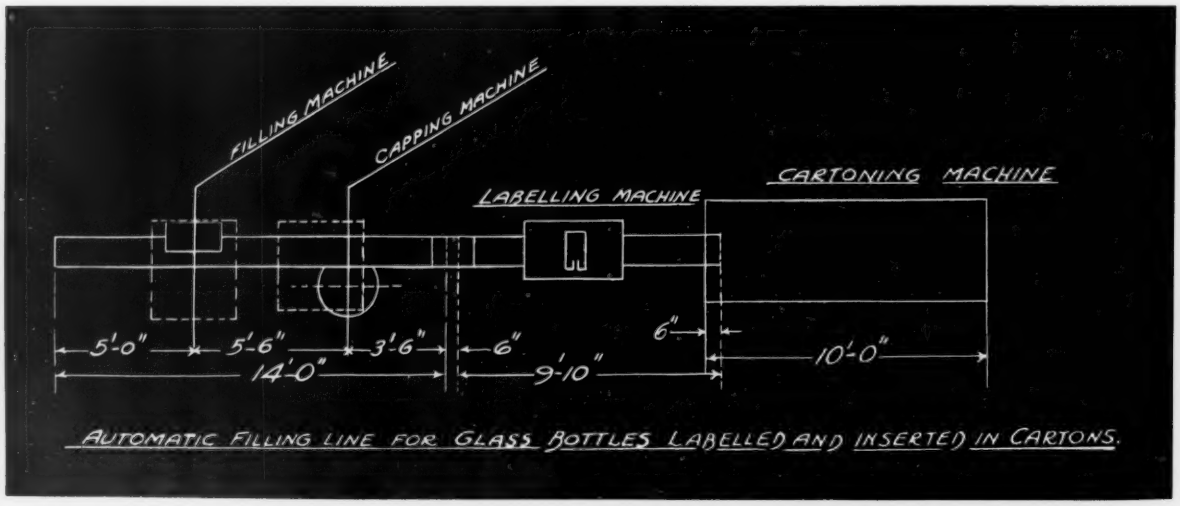
Floor plan of equipment used in packaging various kinds of material in round paper cartons or cans. In this instance the diagram shows one of the three units, the production from which terminates in a conveyor chute that is common to all. Here the operation consists of filling, in which a weighed or measured amount of the product is placed in the containers; these then move by belt to the capping machine where slip or other type covers are placed on each; automatic labeling follows, and then the finished packages are placed in shipping cases which are sealed automatically and conveyed to the chute. Courtesy, J. L. Ferguson Company



Floor plan showing typical installation of semi-automatic equipment for ordinary carton filling and sealing. In this case the cartons are set up by hand and placed in the bottom sealer unit and are handled automatically through the filling machine and top sealer. Reaching the packing table they are packed by hand in shipping containers. Because part of the work must be done manually, it is essential to provide adequate room in which the operators may work. Ordinarily this simple equipment is arranged in a straight line although it may be varied if placed in a confined area. Courtesy, Consolidated Packaging Machinery Corporation. For those manufacturers who have a limited output, there is available an extensive line of semi-automatic equipment to cover every operation in the packaging of dry and wet products. These may be had with belt- or self-contained motor drives and are equipped as portable or stationary units. Conditions may permit a combination of full with semi-automatic machinery, thereby obtaining more efficient results than those possible when hand and semi-automatic methods are employed



Plan of automatic line consisting of carton sealing and weighing units, lining machines, coupon inserting machine and shipping container sealer. Two operators—other than those required to furnish material—are needed, and up to 70 packages per minute may be produced. By a series of conveyors the formed cartons are fed to the lining machines, thence to the filling unit and, before final sealing, a coupon is inserted in each package. This arrangement permits economical use of floor space. In this arrangement adequate provision is made for the transportation and constant supply of all materials to the points where they are utilized. It is to be noted that each unit is driven by an individual motor, thus making it possible to shut off one without affecting the others. Courtesy of J. L. Ferguson Company



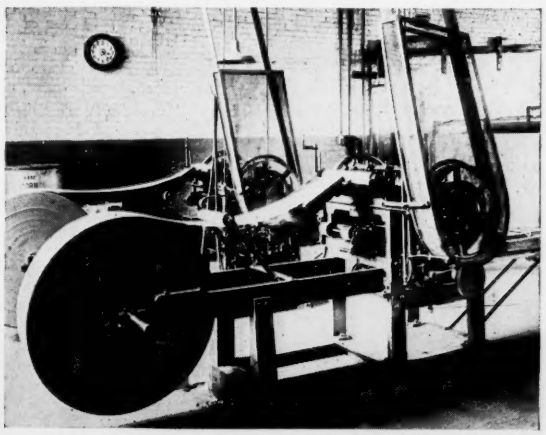
Floor plan showing typical equipment installation of automatic filling, capping, labeling and cartoning units as arranged for liquid products. In most liquid packaging lines, however, special equipment for washing, sterilizing and drying of bottles directly precedes the packaging units shown in this diagram. Subsequent operations include the packing of the finished cartons, or bottles if cartoning is not done, in shipping cases which may be sealed by hand or in automatic machines. Courtesy of Consolidated Packaging Machinery Corporation

PACKAGING DRY PRODUCTS

by A. R. KEENE

THE VARIOUS TYPES of containers used in modern packaging work are familiar to most manufacturers of packaged products. Regardless of the relative merits of all types it is vitally important that the one you select be constructed carefully. It is essential to choose a design which is attractive and appealing, but it is just as necessary to be certain your package is made to handle efficiently on automatic equipment. Even though your present output can be well taken care of by hand or semi-automatic methods, it won't cost you any more to adopt a container that lends itself to automatic methods. Get started right and you'll be that much further ahead when increasing sales demand maximum output.

Avoid tricky and complicated packages and don't let anyone tell you that unusual shapes and sizes can always be handled without difficulty. Perhaps they can, but your machine builder should be consulted for a final check. Really, packaging equipment builders

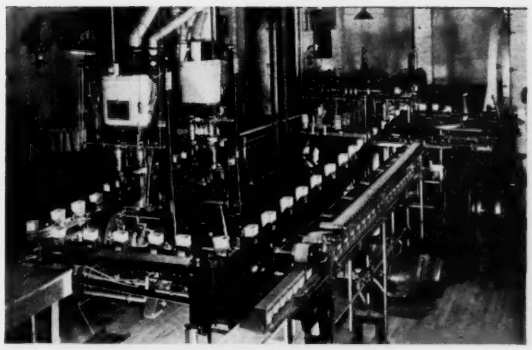


Forming machines for making plain or unprinted cartons. Machines take paper from roll; cut, score, glue the lap, fold and deliver the cartons in knock-down form at speeds up to 200 per minute. Courtesy, J. L. Ferguson Company

aren't as hard boiled on this point as some folks might have you believe. When asked to handle unusual jobs it is surprising to see what a good machine builder can do providing it is a practical idea you ask them to help in working out.

It is impossible, in this article, to hope to cover the thousand and one points which are important in designing containers to insure packaging efficiency. We will mention a few in the following discussion but you should ask the container maker and machine builder to cooperate with you on your package jobs.

There is one packaging machine function which remains basically the same regardless of container type,

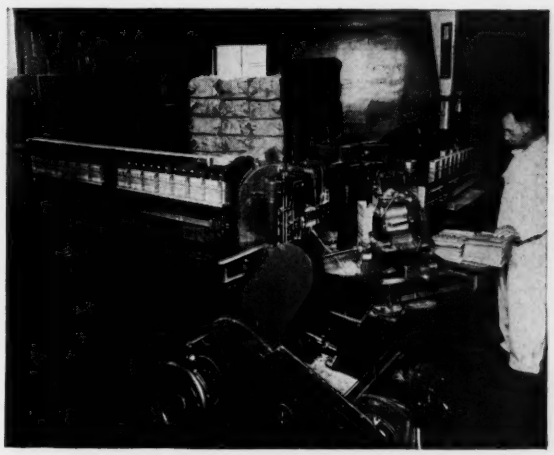


Weigher, lining machine and combined sealer with conveyors which connect the three machines into one unit. Courtesy, United States Automatic Box Company, Ltd.

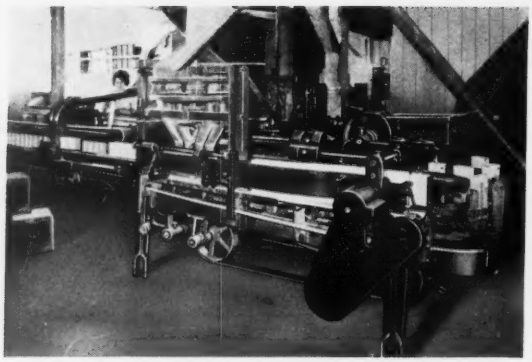
namely, filling and weighing. By "the same" we mean that any of the following four methods might be used whether the package is a bag, can, jar, carton or canister. We will list the four systems and discuss each one very briefly:

(a) Accurate filling
(b) Gross weight weighing
(c) A combination of (a) and (b)
(d) Net weight weighing.

Before considering each of these four basic methods it perhaps will be wise to mention some of the standards, set up by the Department of Commerce, relating to weights and measures. It is an almost invariable rule that a food products package shall be plainly and conspicuously marked with the quantity of the contents in the terms of weight, measure or numerical count on



Flexible combination of hand-fed bottom and top sealer and straight line weigher for small production. Handles different carton sizes and products. One operator can turn out 10 to 18 per minute. Courtesy, Pneumatic Scale Corporation, Ltd.



Combined bottom and top carton sealer equipped with volumetric filler. Operating speed up to 70 packages per minute, Courtesy, J. L. Ferguson Company



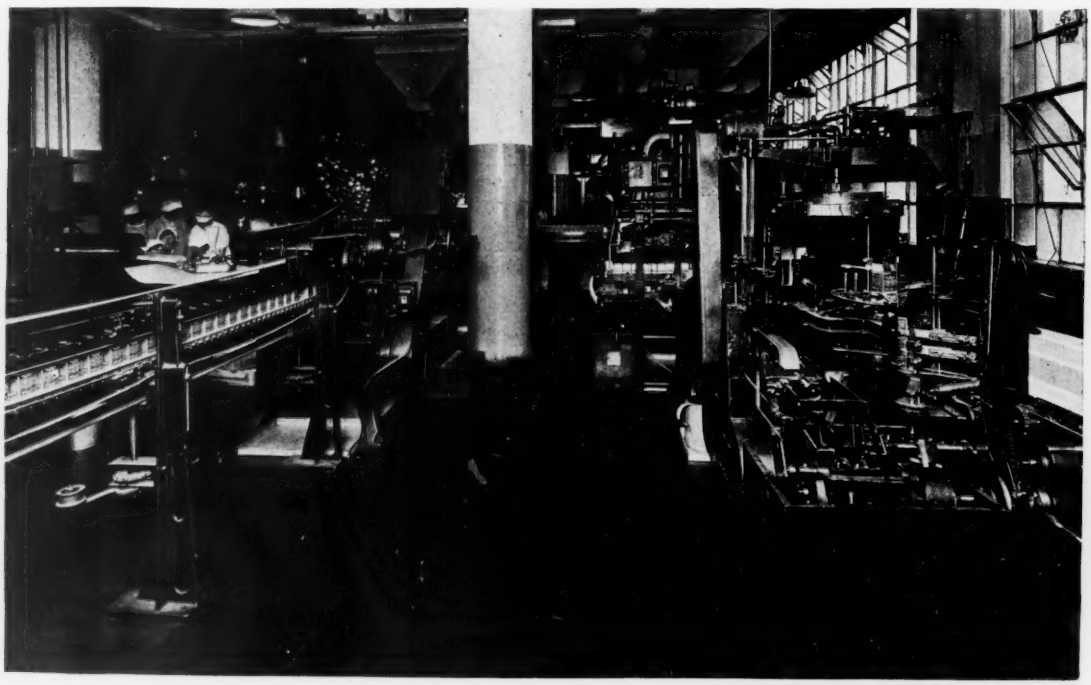
Unit for filling various containers with powdered or granular products, 15 to 20 per minute. Courtesy, Stokes & Smith Co.

the outside of the container. Certain tolerances and variations from the quantity of the contents marked on the package are allowed.

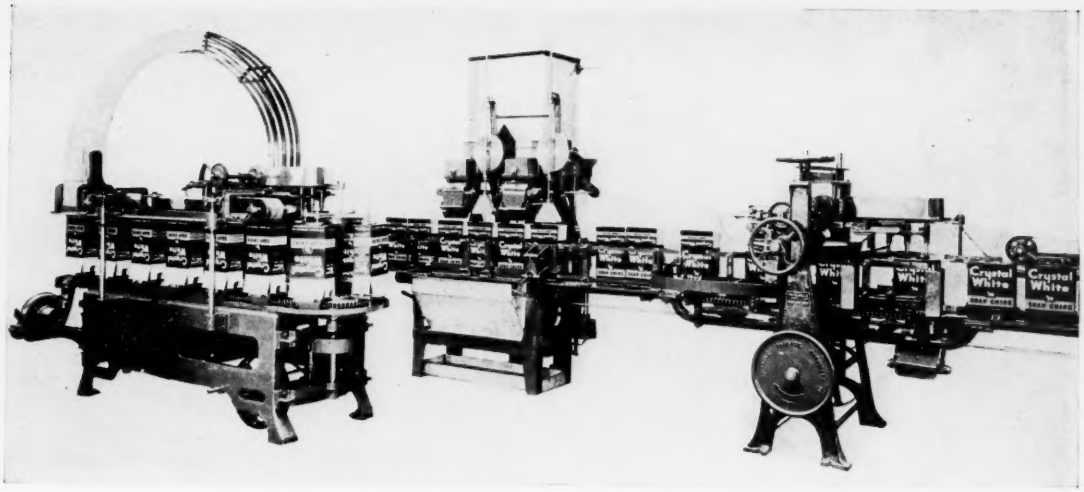
(1) Discrepancies due exclusively to errors in weighing, measuring or counting which occur in packing conducted in compliance with good commercial practice. (2) Discrepancies in weight or measure due exclusively to difference in atmospheric conditions in various places, and which unavoidably result from the ordinary and customary exposure of the packages to evaporation or to the absorption of water. Discrepancies in the first case mentioned shall be as often above as below the marked quantity. The reasonableness of discrepancies under the second class will be determined on the facts.

A package containing $1/2$ avoirdupois ounces of food, or less, is "small" and shall be exempt from marking in terms of weight. The term "small" in the foregoing sentence should not be confused with the use of the same word in the following discussion of methods of filling and weighing packages. It is difficult to determine where the line should be drawn in terming a package small or large or medium, as applied to the general packaging field, and therefore we will leave this particular question to the reader's good judgment wherever the word "small" appears in our discussion.

Accurate filling is not the most common principle but probably is the simplest. With this method correct quantities of certain products can be measured mechanically without using a weighing device. One way of accomplishing this is to measure by volume, and the



Typical installation of high-speed units for carton feeding, bottom sealing, weighing and top sealing. Courtesy, Pneumatic Scale Corporation, Ltd.



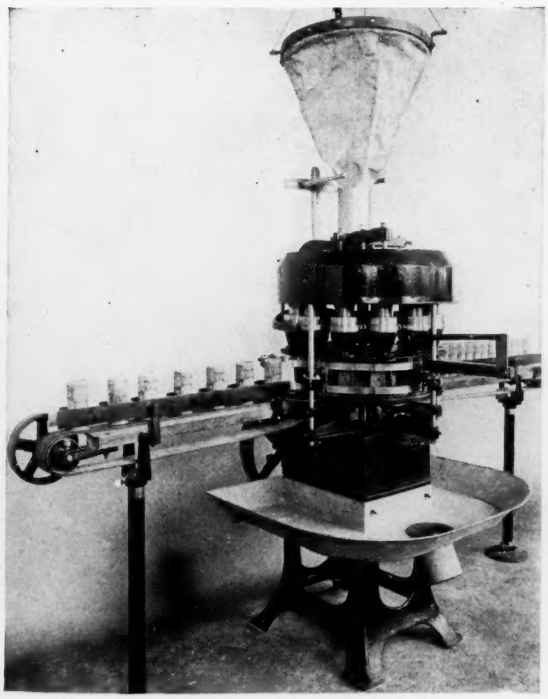
Complete automatic unit for bottom sealing, folding, drying, upsetting into an upright position, bulk filling, plunging, finished weighing, plunging again and reshaping package, top sealing and drying. Carton holds 5 lbs. of soap flakes and is largest carton handled on packaging machinery of this type. Courtesy, Triangle Package Machinery Company

other by means of a definitely timed or regulated feeding of the material. Good commercial accuracies can be guaranteed with correctly built machines of this type as long as the bulk of the material remains uniform. If, however, the nature of your product is such that it varies in weight per unit of volume, then measuring won't be entirely satisfactory, if accuracy is a necessary requirement of your production.

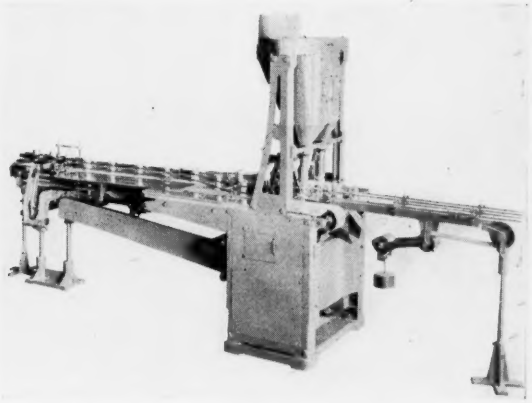
Remember, too, that if your package must be marked with the weight of its contents, then it is important to be sure that any filling method you adopt does give uniformly accurate weights. One more general rule is that measuring is advised only for the comparatively small sized packages. It isn't correct to definitely say that one certain method of filling or weighting is correct for all cases. There are too many varying factors to be considered to allow making such a statement.

We can, however, mention a few typical cases where accurate filling is successful, and these actual examples may help: Scouring powder in canisters, jelly crystals and dessert powder in small cartons, tooth powder in cans, face powder in paper boxes, cut tea in tea balls, granular salts in bottles. Speeds ranging all the way from 10 per minute up to 65 per minute are entirely practical with one of the many units available.

Gross weight weighing is next on our list and here, as the name implies, both the package and its contents are weighed, not just the product alone. You will realize, therefore, that any variation in weight of the package may affect the weight of the contents. Usually,



Automatic unit for filling powder products into round or rectangular canisters. Courtesy, Pneumatic Scale Corporation, Ltd.



Automatic duplex filling machine with conveyor and cap press. Courtesy, Stokes & Smith Company



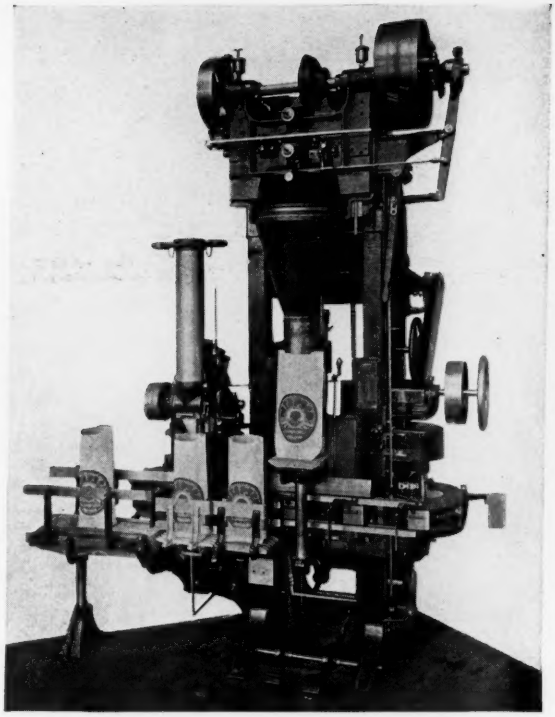
Unit type scale in combination with rotary filler (fibre can filling). Courtesy, Consolidated Packaging Machinery Corp.

however, this is not a serious variation with most types of containers. The flow of material from feed hopper to package is controlled by the scale beam on one end of which the package rests during filling. When the right amount of material is weighed into the package the scale beam trips a shut-off which stops the flow of material instantly and indexes the package ahead to the next position. Usually gross weight weighing is done on two scale machines with the bulk load ($^2/_3$ to $^7/_8$) weighed at the first scale and the final extremely accurate weight delivered by a fine stream at a second scale.

Gross weight weighing is essential when accurate weighing of non-free-flowing commodities is necessary, and especially so if your package is beyond the small size classification. Another group of representative cases will help to show where gross weight weighing finds its place: Powdered sugar in cartons, cocoa in



Duplex packer and weigher connected to automatic bag sealer. Courtesy, Stokes & Smith Company and Consolidated Packaging Machinery Corporation

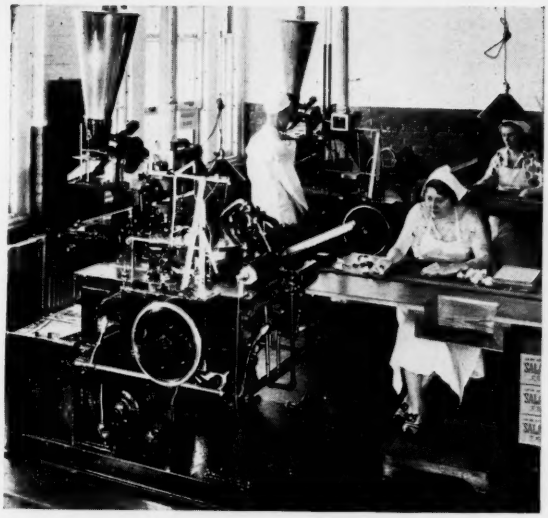


Packing and weighing unit for flour in sacks. Speeds range from 8 to 30 per minute. Machine automatically transfers bag to accurate weighing station and then to tieing or sewing unit. Courtesy, Pneumatic Scale Corporation, Ltd.

cans or canisters, malted milk products in cans, prepared flour in cartons are a few examples.

A practice sometimes followed is to combine in one machine the two principles of gross weighing and measuring. The clearest explanation of this method can be given by describing one commonly used machine of this type, namely, the bag flour packer. As in any filling or weighing task, the natural objectives are maximum speed and accurate weights. Here there is the additional requirement of a tightly packed bag. The latter factor makes straight gross weighing impractical but by resorting to a worm packer for the machine's first station, the greater part of the bag contents can be packed in tightly at reasonable speed and without weighing. To get weight accuracy it is only necessary to finish off the filling at one or two subsequent stations by directing a fine stream of flour into the bag while it rests on a platform scale.

Finally, there is the class of package filling and weighing termed "net weight weighing." With this system the package contents are weighed separately before being transferred to the package. In order to make use of this method the first essential is that your product be either free-flowing or at least semi-free-flowing. Net weight weighing cannot be efficient if the material is at all sticky or tends to build up and cling to feed hopper or funnel surfaces. Where the nature of the product will permit the use of this method it is usually true that the weights will be extremely accurate. Care should be used in selecting the net weight method as it is not al



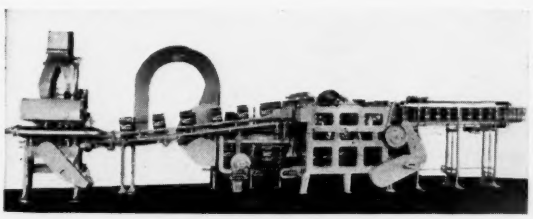
Automatic tea ball making and filling machines. Courtesy of the Pneumatic Scale Corporation, Ltd.

ways the most satisfactory, even though accurate weights might be possible.

Again, a group of typical applications will perhaps be helpful. These tasks are being handled successfully by net weight: Coffee in cans, bags or cartons, salt in cartons or bags, tea in canisters or cartons, rolled oats in round or rectangular packages, etc. In this brief outline we cannot hope to cover the exact applications of all machine types but you can feel free to call on the reputable machine builder for more detailed advice.

All of the foregoing discussion deals mainly with dry product filling and weighing, but of course there are other equally important tasks which deserve brief mention in order to complete the picture of packaging methods in general.

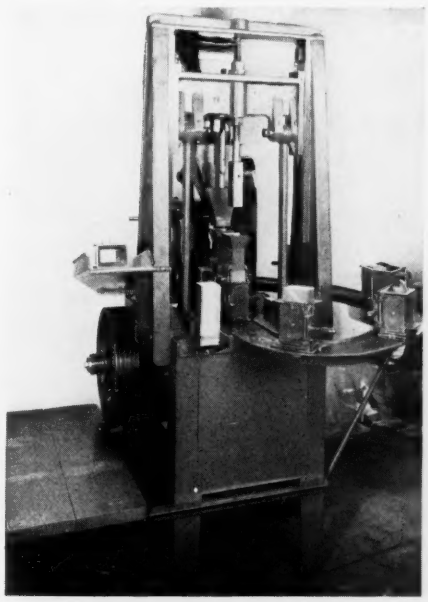
Be sure that your package, whether a carton or some other type, is made sufficiently large to permit rapid machine filling or weighing of the required volume of material. At the same time make certain that it isn't too large. You don't want your consumer to receive a package that seems to be half empty. If your package is a folding carton ask your machine builder to check it for correct machine handling construction. Proper scoring, right weight cardboard, correct shape, strong side seam at right location, are only a few points to keep in mind. The folding carton is one of the most widely accepted types and at the same time the equipment available for making it up in various forms is offered in a most complete range of sizes, types and capacities for every manufacturer's needs.



Combination bottom and top sealing machine for extra large packages, Gross weight scale; hand-fed operation. Speed is 20 per minute. Courtesy, Johnson Automatic Sealer Company, Ltd.

Because the folding carton is particularly well suited for packaging dry products there are a number of styles which have been developed. Careful checking is advised bearing in mind the nature of the product and the style which will be most convenient for the consumer. The seal end carton, with extended flaps, is most popular for products which are liable to sift, but is difficult to seal by hand. Reverse tuck and straight tuck cartons are readily sealed by hand, as well as by machine, and offer ready examination of the product prior to purchase. For more complete data on carton styles see pages 64–84.

The company whose requirements are not large can install an inexpensive hook-up which will help to lower packaging costs. As need demands more production, this first installation can be replaced piece-meal by more automatic and faster units. Thus an output as low as 5000 per day will justify packaging equipment of some sort being installed.

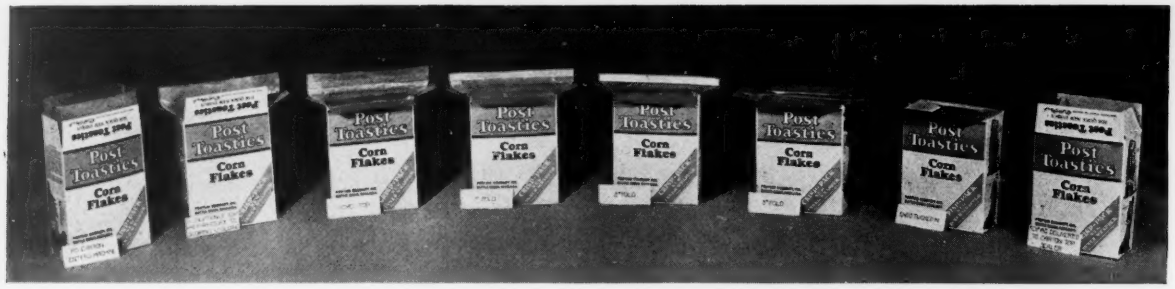


Automatic net weigher with automatic press. For weighing, filling and pressing dry materials in paper bags without bursting. Courtesy, Triangle Package Machinery Company

With folding cartons there are certain basic operations to consider. For some carton packages all will be needed, while for others only part of these are necessary:

(1) Carton feeding and forming
(2) Bottom sealing
(3) Lining
(4) Filling or weighing
(5) Carton closing
(6) Wrapping

The usual practice is to handle each of these tasks on



Inner liners for cartons. This illustration shows the succession of folds for roll closing with a triple roll closure. This closure effects a complete inner closed bag which is independent of the top. Courtesy of Johnson Automatic Sealer Company, Ltd.

an individual unit but in some cases it is practical to take care of several on a combination machine.

The photographs reproduced in this article will illustrate a few typical machine installations and show how a complete packaging job might be handled with only one machine, or on the other hand require as many as six units in the hook-up.

The correct planning of packaging equipment installations is an important matter. Another section of the PACKAGING CATALOG gives some recommendations and shows practical layouts. For maximum efficiency in your packaging room consult with packaging engineers who have worked out many of these installations. Doing so doesn't obligate you and some worthwhile suggestions are most certain to develop.

Wonderful strides have been made in the improvement of packaging machinery during the past few years. You may be operating equipment that is giving excellent results but the chances are that if it is even ten years old it is not the most efficient available.

PACKAGING LIQUID PRODUCTS

by E. E. FINCH

EARLY in the fall of '33, the distiller who was contemplating re-entering the whiskey business and bottling of that product, pictured to himself an equipment similar to what he used in 1910, or '14 or '16. He visualized generally a production of 200 or 300 cases a day in a bottling plant. He anticipated the use of corks in bottles and the same method of cleaning and filling and labeling the bottles as he had always done in days gone by. The patented caps and the standard modern screw caps have to a great extent taken the place of straight corks and shell corks that we used to know in the old days. The distiller who had thought that he would produce 300 to 500 cases a day, found that it was advisable to consider a much larger production unit, or units, and it is not unusual now for a distilling plant to consider a production of 10,000 to 20,000 cases per day.

All of this means that even in this modern day, we are presented with new problems to solve, in an effort to use those machines that have proved themselves to be standard and practical in the past few years and make them adaptable to these new containers or operating conditions. A few years ago it was reasonable to assume that in the filling of liquids into bottles it was entirely practical to consider that there were three methods of accomplishing this result; namely, the syphon method of filling, the pressure method of filling and the vacuum method of filling.

We believe that the syphon method of filling is strictly a thing of the past and we do not think that anything is gained by discussing this method in the present day and age of high-speed production requirements. The pressure method, and particularly the vacuum method, we believe, can and should be discussed and we will endeavor to briefly cover various points in relation to these types of machines as applied to their operations.

Direct Pressure Method

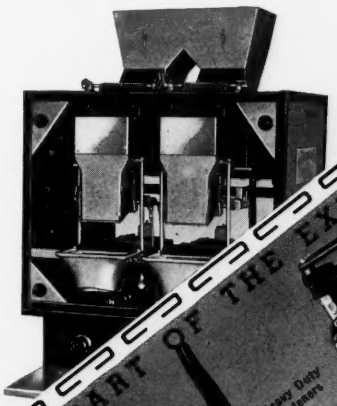
The direct pressure is perhaps the simplest method of filling, and while objections have been made to this method, it is being successfully used in the filling of catsup, chili sauce, vinegar, syrups, cream soups, etc. Among the objections claimed is that if a bottle is chipped or cracked around the mouth or is imperfect in any way the liquid continues to flow into the bottle and through the bottle on to the machine or on the floor. If a piece of the bottle breaks in filling hot products, as sometimes occurs, the liquid flows through that aperture until the filling head is raised. On the other hand, one of the large food packers operating high-speed production lines, running 100,000 to 125,000 bottles per day, made a careful checkup for defective glass, and it was found that the total number of defective bottles during a day's operation seldom exceeded 50 bottles

XUM

Modern Methods and Machines

for *Weighing and Filling*
for *Package Closure*
for *Display* . . . . .

The New Bostitch-Rapp Packaging Machine



Automatically controlled high speed (for filling) and slow speed (for finishing) provides an unusual combination of quick filling and accurate weighing. Handles free-flowing and non-free-flowing materials, such as coffee, tea, sugar, peas, rice; nuts, cereals, macaroni, tablets, powders. Eliminates expensive over-weights. Weighs and fills as fast as operator can handle containers.



Bostitch B-5 Fastener



The popular streamlined fastener for securely attaching correspondence and other related papers, temporarily or permanently. Quiet, positive action. Quick, easy loading. Also serves as tacker when desired. An excellent bag sealer as well.

Model ELT Stapler
Foot or Motor Power

For production work . . . has wide opening; deep throat, and plenty of power. Saves fatigue. Can be furnished with many sizes of staple, which can be shaped to fit the product. Double head models available. Adapted to any type of material from thin cellophane to heavy jute bags or fibreboard containers.

A PART OF THE EXTENSIVE LINE OF BOSTITCH MACHINES FOR QUICK, SECURE FASTENING IN PACKAGING AND SHIPPING WORK

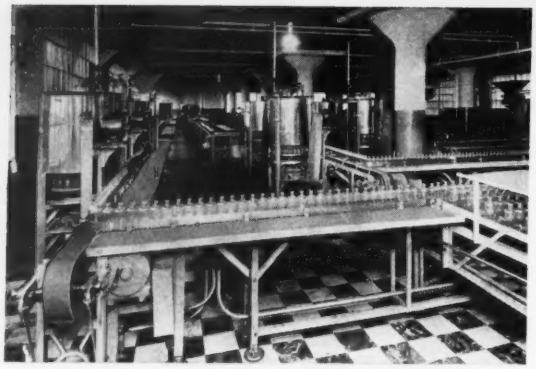
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XUM



Four lines of automatic equipment for handling liquid antiseptic. Bottles are fed from dryer to washer, then to filler and corker. Courtesy, U. S. Bottlers Machinery Company

and many of these bottles were chipped during passage through the bottle washer.

The governing factor that often dictates the use of the direct pressure filling method in preference to any other is that the direct pressure filling machine is the most simple in construction. A direct pressure filling machine properly constructed has all parts easily accessible, and can be cleaned by brushing if necessary. This is not the case with vacuum, measuring or any other type of filling machine, as these all require complicated passageways, valves, overflow systems and return pumps, that always present a difficult cleaning problem. Inasmuch as the construction is simpler they also lend themselves more readily to construction using corrosion-resisting materials when so required.

Along about 1914, with the increase in the merchandising of small packages, there arose a necessity for a filling machine to fill not only bottles but also glass jars and tin cans of various types. There were products of a viscous nature that could not be handled by a syphon method or even by the direct pressure method. As the demand increased for a machine to handle viscous products such as jams, jellies, preserves, mustard, syrups, ointments, paints, varnishes, etc., there were developed measuring types of machines and these were of two general types and known as the rotary gear type and the piston type.

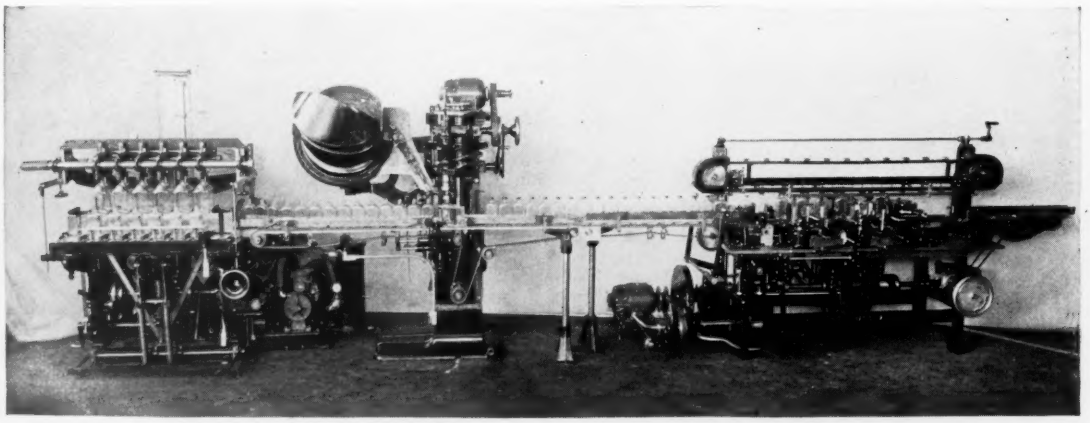
In the rotary gear type a special spiral gear pump was invented that in operation on the filling machine measured an exact quantity into the container, as it was automatically carried around the filling head. Changing of gears changes the speed of the pump according to the quantity desired and the speed at which the machine is operated in the average plant under ordinary conditions.

The machine is also equipped with a friction drive



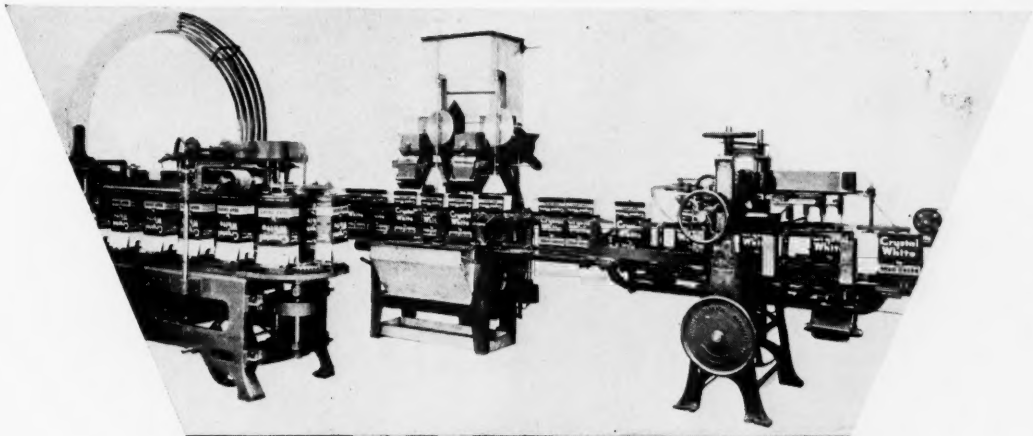
18-stem hand rotary filling machine

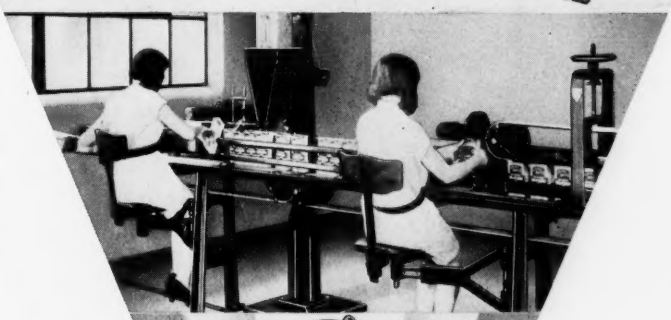
for the finer accuracies desired for measuring an exact quantity into a container, and has been developed to a point where it measures to the fraction of an ounce, giving the accuracy desired in filling small as well as



Automatic vacuum cleaner and filler, single-head capper and labeller. Courtesy, Pneumatic Scale Corporation, Ltd.

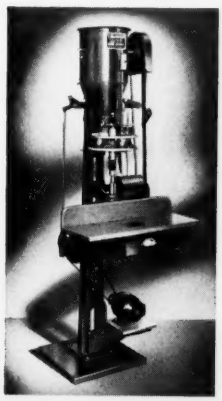
Whatever Your Production.....There's
A TRIANGLE MACHINE *for your purpose*

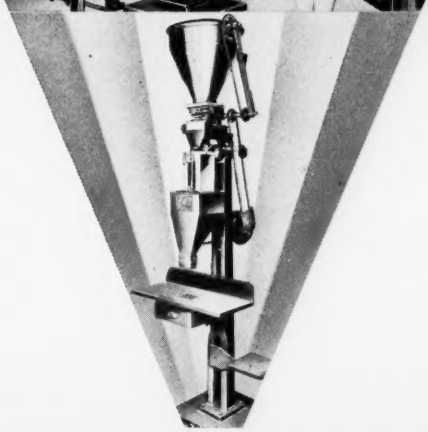


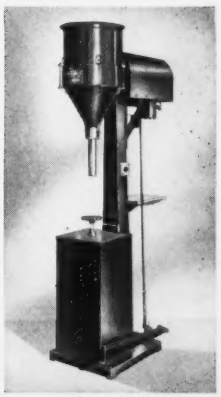


Production: Ranging from 6 to 60 packages per minute. All dry materials filled in cartons, cans, bags, bottles, envelopes, etc.

Carton Sealers, Net Weighers, Gross Weighers, Auger Packers, Measuring Machines, Fillers, Sacking Scales, Bar Shakers.







TRIANGLE PACKAGE MACHINERY COMPANY

907 NO. SPAULDING AVE., CHICAGO, ILL.

50 Church St., New York

111 Main St., San Francisco, Cal.

Foreign Office: 44 Whitehall St., New York



Straight line semi-automatic vacuum filler, filling miniature whiskey bottles. Unit discharges containers to feed conveyor of sealing machine which spins on the closures. Courtesy, U. S. Bottlers Machinery Company

large containers. It is today used for filling all viscous and semi-viscous products such as paints, oils, creams, ointments, mustard, etc., although some improvements and developments have been made; and where originally a speed of 40 a minute was considered ample, new machines now operate at a speed of from 90 to 140 containers per minute.

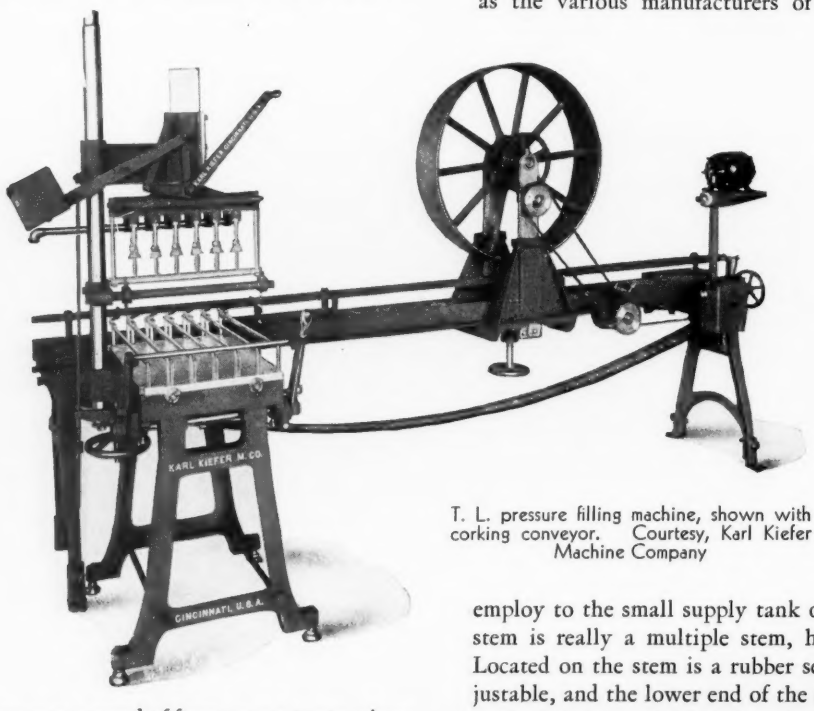
There are two styles of piston type machines. In the first the product flows direct from supply tank to the cylinders of the machine and in the other the product flows into a hopper located directly above the cylinders. In both types the piston is set to deliver a predetermined quantity at each stroke. As the piston is drawn back in the cylinder, the liquid follows or is sucked into the cylinder and then on the reverse stroke is forced out of the cylinder through filling nozzles into the container. These machines are made in various sizes with production possibilities of from 25 to 100 containers per minute.

Today, for the filling of small bottles, such as those for perfume, extract and similar products there is still the simple single stem and double stem hand vacuum filler, the small semi-automatic straight line machines, the tray type machines, the large automatic rotary type machines and the automatic straight line machines.

In the direct pressure machine the supply tank is above the filling machine and the product flows by gravity from this tank through the head and thence through the stems of the machines into the bottles. As the liquid flows in, it forces the air out ahead of the liquid. In the vacuum machine the product comes from the manufacturer's supply tank into a small supply tank on the filling machine, located below the filling head or stems. The vacuum produced in the bottle first draws the air out and thus the vacuum established in the bottle draws the liquid from the small supply tank.

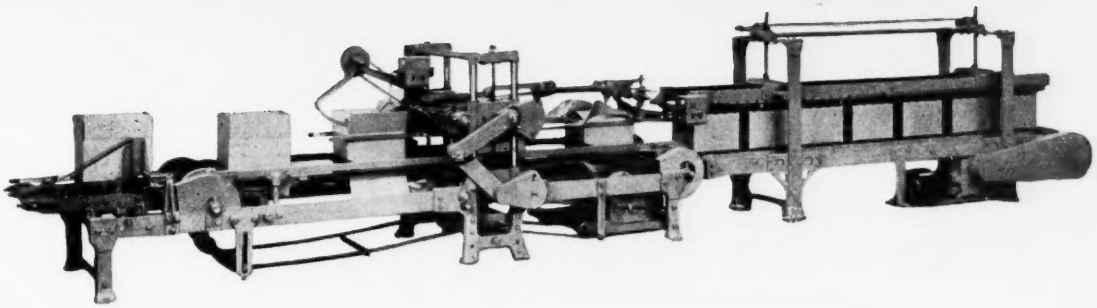
Operation of Vacuum Machine

The vacuum machine is extremely simple in its method of operation. The stems are connected by such methods as the various manufacturers of these machines may employ to the small supply tank on the machine. The stem is really a multiple stem, having two openings. Located on the stem is a rubber seal which may be adjustable, and the lower end of the stem enters the bottle to the height at which it is to be filled. At that point the mouth of the bottle is resting firmly against the rubber seal on the stem. Immediately the mouth of the bottle comes in firm contact with the rubber seal, the vacuum, which is produced by either individual vacuum pumps or a general vacuum system in the plant, draws the air out of the bottles through the smaller of the two openings in the stems. When that occurs the liquid naturally follows through the other opening or filling line, fills the bottle up to the air outlet and if the bottle



T. L. pressure filling machine, shown with corking conveyor. Courtesy, Karl Kiefer Machine Company

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CASE SEALERS
The "STANDARD" For All Industry



Our increase in volume of business, a large percentage of which is repeat orders from customers already using our equipment, is proof positive of the claim that our equipment is standard in its line.

Our machines are 100% automatic in operation. Our service we believe to be as near perfect as it is humanly possible to make it.

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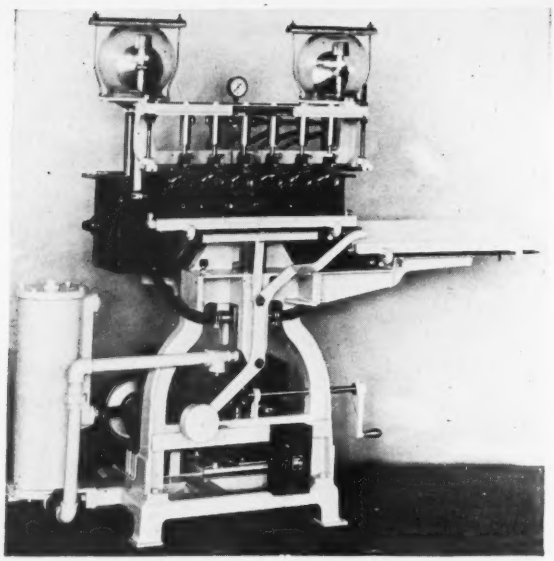
Our service and our engineering experience are at all times available.

STANDARD-KNAPP CORPORATION

MANUFACTURERS OF CASE SEALING, CASE PACKAGING, AND CAN LABELING MACHINES

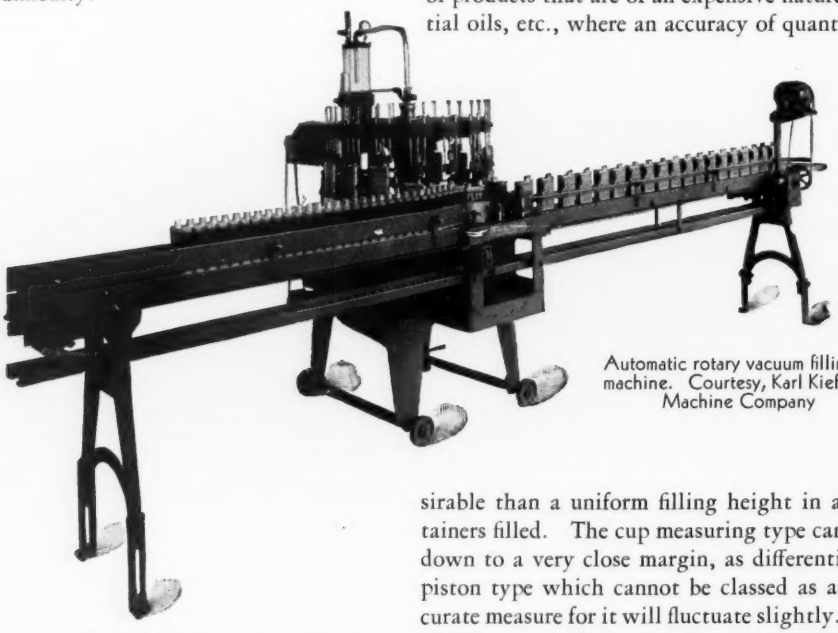
43-27 32nd PL., LONG ISLAND CITY, N. Y. | 208 W. Washington Street, CHICAGO | 1001 Society for Sav. Bldg., CLEVELAND | 909 Western Ave., SEATTLE

420 S. San Pedro St., LOS ANGELES | 189 Second Street, SAN FRANCISCO | Windsor House, Victoria St., LONDON, ENGLAND



Vacuum filler. Courtesy, Pneumatic Scale Corporation, Ltd.

remains in contact with the seal the excess liquid overflows through the air or vacuum line into a vacuum bowl and by means of an ingenious device is automatically returned to the supply tank on the machine. If all connections are tight, if both the air line and the filling line are clean and free, then all perfect bottles will be filled without any difficulty.



Automatic rotary vacuum filling machine. Courtesy, Karl Kiefer Machine Company

On straight line automatic machines the bottles are carried forward on a conveyor and automatically transferred from the conveyor to a platform which raises the bottles up to the filling head. After being filled the bottles are again automatically placed back on the conveyor. Only partial vacuum is necessary to fill the bottles. In handling heavy products at high speed, vacuum up to 18 in. to 20 in. may be used, but the average liquid filled in the average bottle requires only from 3 in. to 7 in. of vacuum. To give a more specific illustration, on some of the larger automatic rotary machines filling a product such as catsup at 100 pint bottles per minute requires not more than 8 in. of vacuum

The advantages of the vacuum method of filling are so varied and so great that this type of machine has almost entirely superseded the older types such as syphon and pressure machines.

The gravity-vacuum method combines the simplicity of the gravity filling principle with the advantage of doing away with the loss of product due to defective bottles. As far as construction is concerned, the gravity-vacuum system is as simple as the gravity, or direct pressure filler. The essential difference is that the complete filling system, filling machine tank, filling valves and containers being filled are under reduced vacuum. At any point in the system where leaks are likely to occur which would result in the loss of liquid, such as defective containers, leaking packing, valves, etc., instead of liquid leaking out of the system, air enters the system. Another advantage of the gravity-vacuum system is that all overflow systems, traps, checks, etc., are eliminated, these parts being complicated and hard to clean. It also does away with the possibility of mixing or injecting air into the product being filled.

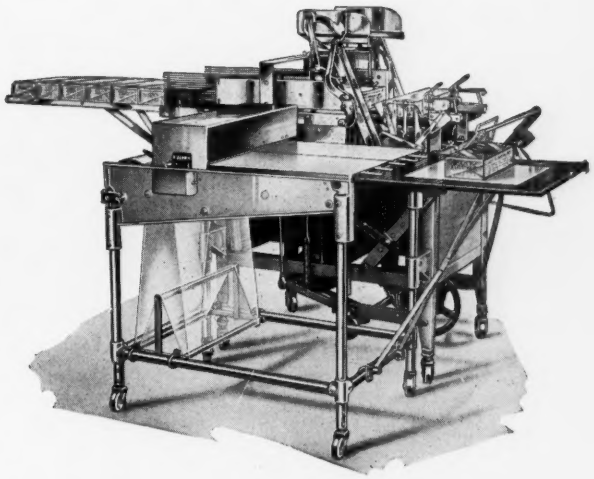
The accurate measure type, in which the liquid is first measured in measuring cups and then dispensed into the container, is especially well adapted to the filling of products that are of an expensive nature such as essential oils, etc., where an accuracy of quantity is more desirable than a uniform filling height in all of the containers filled. The cup measuring type can be graduated down to a very close margin, as differentiated from the piston type which cannot be classed as an absolute accurate measure for it will fluctuate slightly.

There is another type of accurate measure filler and that is the electrically operated cut-off type or weighing type which is used to some extent in the oil refineries.

The machinery manufacturers have developed various machines that will suit the requirements of almost every bottler. The machines range from the smallest or hand-operated units, with a capacity of 10 to 20 bottles per minute, up to 30 to 60 a minute with a semi-automatic, and from 75 to 300 with full automatic machines.

Unequaled Wrapping Machine Value . . . for Least Investment!

The MILLER is *many*... Wrapping Machines combined in ONE. Wraps almost anything!



Miller Model MP "Economatic" Wrapping Machine. Has adjustment range for packages from 2½ to 16" in length, 1 to 7" wide, ½ to 3½" in height. Special equipment is also made for other sizes.

The low-priced MILLER "Economatic" wrapping machine is many wrapping machines combined in one. It wraps almost any size package and handles the unusual as well as the more common types. It wraps with Cellophane, Sylphrap, waxed papers, or waxed foil from printed or plain rolls or flat sheets, as desired. Adjustments are simple, taking only two or three minutes time—no tools needed. Only 4 x 5′ of floor space is required. An ordinary light socket connection supplies the power.

Numbered among the MILLER'S hundreds of users are Armour & Company, B. F. Goodrich Company, Stephen F. Whitman & Son, Inc., Bunte Bros., E. R. Squibb & Sons, Parke Davis & Company, Ward Baking Company and many other well-known firms, large and small alike. To them the name MILLER means *flexibility—easy adjustment—speed—thrifty operation*, Unequaled Wrapping Machine value . . . for Least Investment.



This illustrates a few of the unusual wrapping jobs being done by the Miller. Note the wiping cloths, greeting cards, extension edge candy carton, bottles, etc.

MILLER WRAPPING & SEALING MACHINE CO.
14 South Clinton Street, Chicago



VERSATILE

is the only word that even approaches a description of the performance of the Brightwood and National machines. The packages above are but a small portion of the vast array of items made, weighed, filled, sealed or wrapped on U. S. and National machines. Send for our complete catalogs or state your problem.

Write U. S. Automatic Box Machinery Company, Inc., 459 Watertown Street, Newtonville, Boston, Mass.

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UNITED STATES AUTOMATIC BOX MACHINERY CO., INC.

OWNING AND OPERATING

NATIONAL PACKAGING MACHINERY CO.

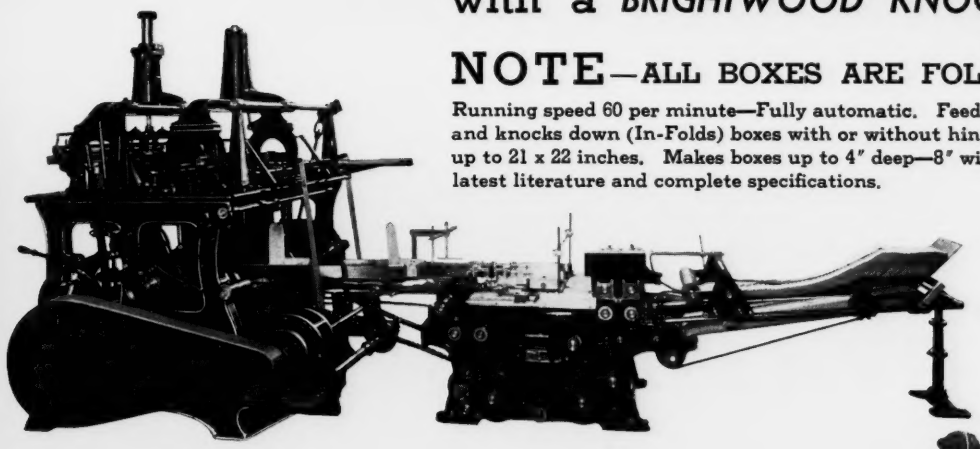
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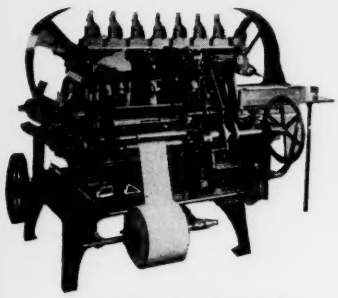
XUM

THE BRIGHTWOOD HIGH-SPEED SET-UP AND FOLDING BOX MACHINE coupled with a *BRIGHTWOOD KNOCKDOWN UNIT*



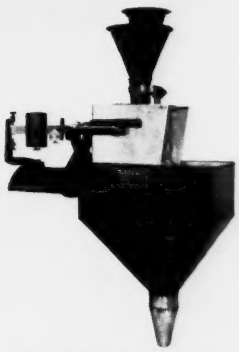
NOTE—ALL BOXES ARE FOLDED INWARDLY

Running speed 60 per minute—Fully automatic. Feeds flat blanks, glues, sets up and knocks down (In-Folds) boxes with or without hinge covers. Handles blanks up to 21 x 22 inches. Makes boxes up to 4″ deep—8″ wide and 14″ long. Write for latest literature and complete specifications.



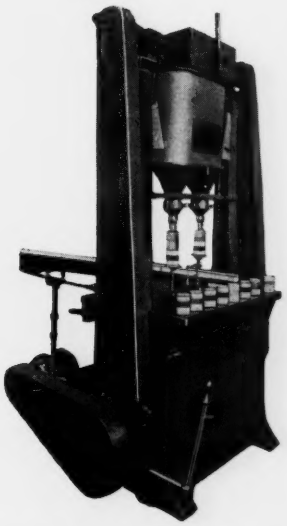
THE NATIONAL WAX WRAPPER
for cellulose and wax paper

Two models. Automatically wraps cartons, boxes, etc., from roll of paper. Speed: 30 to 70 per minute. Completely automatic—no operators required.



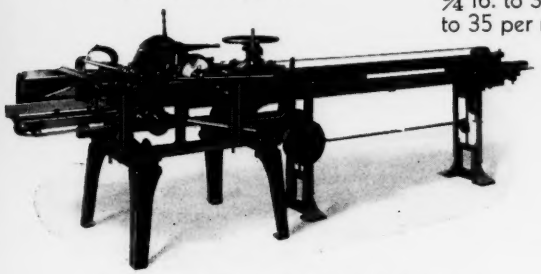
NATIONAL SCOTT NET WEIGHER

A gravity machine for any free flowing material. No power needed. Feeders available for non-free flowing materials. Model G.E. (shown) has capacity ¼ lb. to 3 lbs.; speed 25 to 35 per minute.



MH BOND TWIN Semi-Automatic Gross Weigher

Works two lines. Slower than MN model but more flexible. May be equipped as twin weigher, packer or filler.

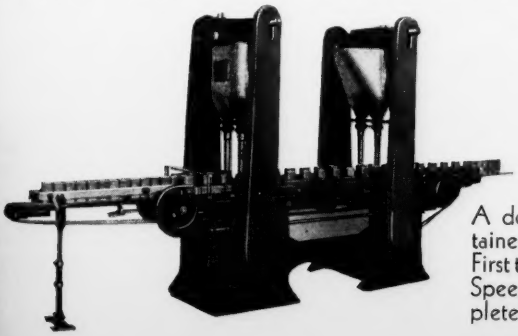


NATIONAL TOP SEALING MACHINE

Automatically receives and seals top flaps of cartons with or without liners or bags. Easily adjustable for different size packages. Speed 30–60 per minute. No operators required.

SEMI OR FULLY AUTOMATIC MACHINES WE MANUFACTURE

- Carton Forming Machines
- Bottom Sealing Machines
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- Gross Weighing Machines
- Cellulose Film and Wax Wrapping Machines
- Collapsing Machines
- Cartoning Machines
- Combined Sealing Machines
- Top Sealing Machines
- Paper Box Forming Machines for single or double wall work
- Net Weighing Machines
- Taping Machines



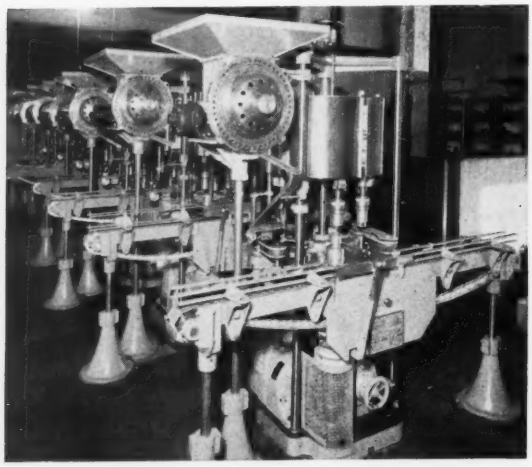
MN BOND GROSS WEIGHER

A double line machine. Automatically divides empty containers into two lines, assembles filled containers into one line. First two stations fill by volume, second two accurately weigh. Speed, 50 to 120 per minute. No operators required. Completely automatic.

CAPPING EQUIPMENT

by I. H. RISSER

RECENT YEARS have seen the increased popularity of the turn-on type of closure, more commonly called the screw cap. This type of closure affords a satisfactory and efficient re-seal to protect the unused product. No attempt will be made in this article to discuss the merits of different types of closures or the materials of which they are made. They will be mentioned only in so far as they can be successfully handled and applied by the use of modern, efficient capping machines. It is, therefore, necessary, in approaching this subject of capping operations, to give some consideration to the closure and the purpose it must serve, bearing in mind that the means of applying it is as important a consideration as the closure itself. The best designed closure, unless it is properly applied, fails utterly in its purpose.

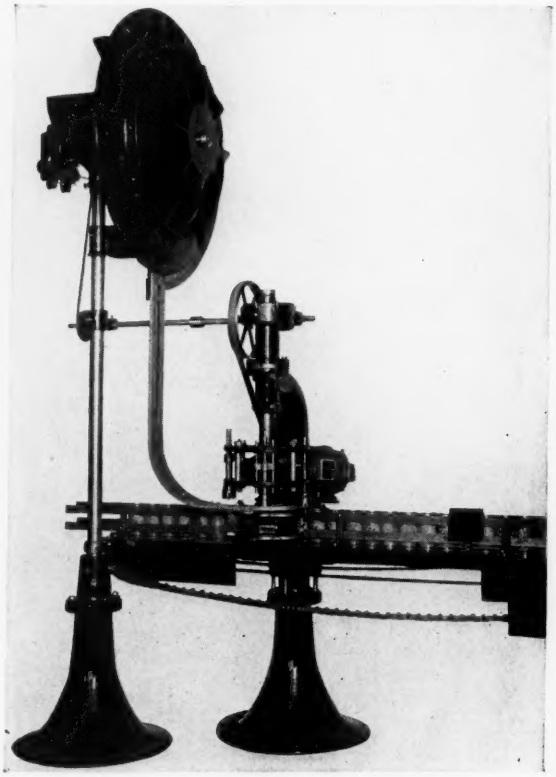


Automatic rotary high speed cappers as used in a large pharmaceutical plant. View is taken from feed side of machines. Courtesy, U. S. Bottlers Machinery Company

Screw caps and turn-on caps are manufactured in many different types and styles and of various materials. They are constructed of plastics and metal. There is the single shell cap and the double shell cap. There is the continuous thread cap and the lug type cap. All of them being applied by the same general principle: that of turning the cap onto the neck of the bottle, advancing the top of the cap against the top of the bottle by means of a thread or a wedge so as to seal the top of the cap and the bottle.

Since it is impossible to control accurately the finish on the top of the glass and the corresponding contact part of the cap, it is necessary that some gasket be used between these two surfaces to insure proper closure and a perfect seal so as to prevent leakage and contamination. It is, therefore, essential that considerable care be used in selecting the proper type gasket, which is commonly termed the cap liner. This liner should be of the proper material to withstand the corrosive action of the product and be sufficiently flexible to permit a perfect seal between the top of the cap and the glass finish without turning the cap on so tightly that it cannot be readily removed by hand.

The application of the screw cap closure is not as difficult a problem as it at first appears. When the cap is properly designed so that the lead threads readily follow the thread on the glass, thus preventing any tendency to cross thread, and the liners are glued into the cap or attached in a satisfactory manner so as to prevent their falling out of the cap, it is possible to employ automatic equipment in applying these closures.



Automatic unit for applying plug cover caps (dry material). Courtesy, Consolidated Packaging Machinery Corp.

There are several types of machines available for applying turn-on caps. On some of these it is only necessary to dump the caps in a hopper, from where they are systematically sorted and fed to the machine in relative cooperation with containers received from the filler. On others, generally referred to as semi-automatic cappers, it is necessary to start the cap on the

Your Bottling Problems

BOTTLING and PACKAGING ENGINEERS

Manufacturers of
Bottle Washers, Fillers, Filters, Corkers, Cappers, Conveying Machinery, Bottling Machinery and Water Stills

MANUFACTURERS OF

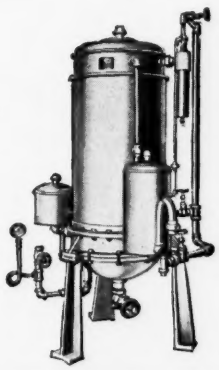
Hand Operated Equipment; Semi-Automatic Machines; Full Automatic Machines for Liquids, Semi-liquids or Semi-solids.

- Cappers (hand, semi or full automatic)
- Conveyors (belt or gravity)
- Corkers (hand, semi or full automatic)
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- Fillers (vacuum type, accurate measure type, piston type, syphon type, hand operated, semi or full automatic)
- Pasteurizers (hand fed, progressive or continuous automatic)
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Industrial, laboratory, hospital and marine types in all capacities.

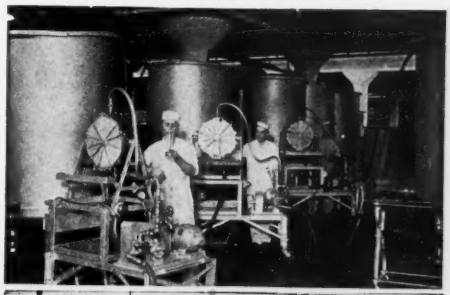
We are exclusive manufacturers of the famous Polar Water Stills manufactured under the A. C. Jewell patents.



SOME TYPICAL U. S. INSTALLATIONS

shown below

View of a battery of U. S. Filters used by one of the largest drug manufacturers in this country.



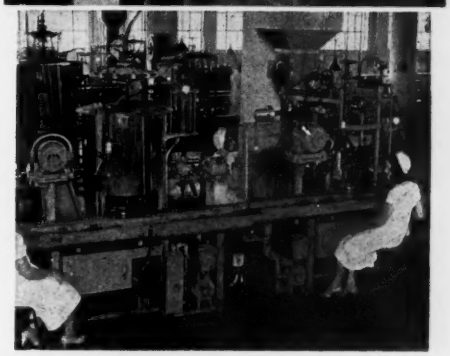
U. S. engineered California Wine Producer's bottling plant using a complete automatic line.



An installation of U. S. "Cascade Washers" together with U. S. drying and conveying equipment used in a prominent food product plant.



View of a well-known pharmaceutical plant which has three complete lines of washing, drying, filling and packaging equipment furnished by U. S.

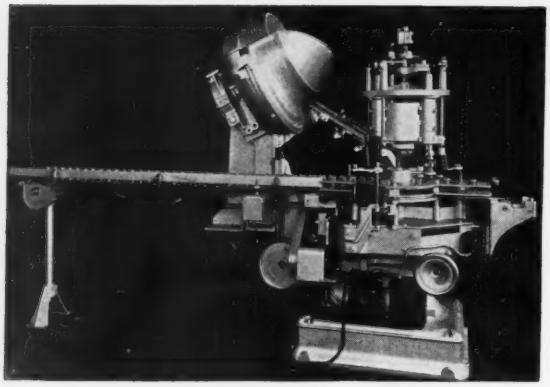


Call on our Engineering DEPARTMENT

U. S. engineering service is available to help you solve your bottling problems. If you wish to personally visit U. S. engineered plants, we will be glad to tell you where they are located and arrange a visit.

U. S. BOTTLERS MACHINERY CO.

4030 North Rockwell Street — **Offices in all principal cities** — **Chicago, Illinois**



Full automatic Rotary four-head capper. Courtesy, Pneumatic Scale Corporation, Ltd.

container. Regardless of the type machine employed, the caps must be applied with the proper tension so that a perfect seal is made with the top of the bottle and the cap liner. The desirable type of machine, of course, is one on which this cap tension can be regulated for various types, styles and sizes of cap, and properly maintained. It is vitally important that those concerns adopting screw caps have their closures sufficiently tight so as to safeguard their products. The cap, however, must not be too tight on the container. It should not be necessary for the housewife or ultimate consumer to use a pair of pliers or pipe wrench in removing it.

When screw caps were first introduced, these closures were applied by hand, which of course was very tiring and did not insure a perfect seal. In many cases caps, when placed on the containers, were too loose and did not give the proper seal; in other cases, they were screwed down too tightly so that it was difficult for the housewife to remove them. A consumer seldom buys a product the second time when it is necessary to get out the tool chest to open the container.

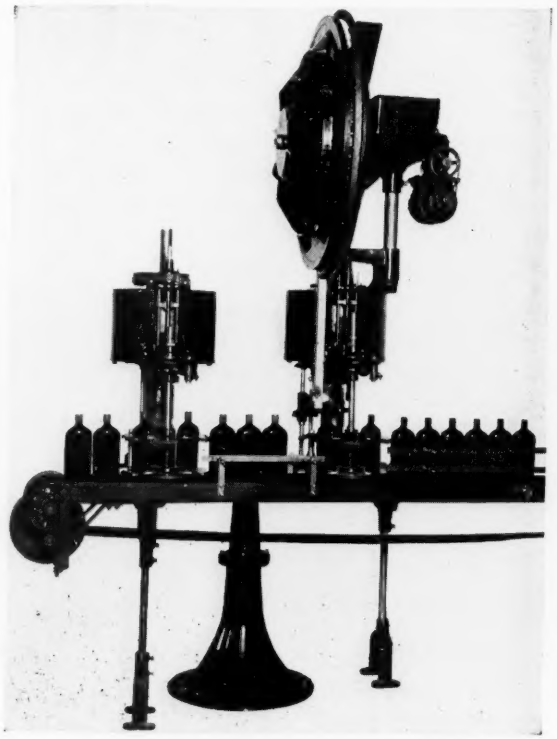
There are many cases where production requirements are so small that the tendency is to continue with the old hand operation. For those manufacturers whose requirements are small, the adoption of at least a hand tightening unit is recommended. This unit can be adjusted so that every cap will be applied to the proper tension in order to insure a proper seal and still be removable by hand.

The use of a hand capping machine saves many times its original cost by insuring properly tightened caps. Hand capping units will not, of course, meet the demands of those concerns having a production of 1800 completed packages or more per hour. Concerns with this production are interested in either the semi-automatic machine or the fully automatic unit, depending on their problems.

The semi-automatic machine is of the same general construction and size as the fully automatic. The cap feeding device, however, is omitted and the cap started on the container by hand. It is installed in the production line the same as the fully automatic and occupies the same space as the automatic machine. It has a feed conveyor and a discharge conveyor, and the containers are fed and discharged automatically. Prior to the automatic feeding of these containers under the revolving spindle, an operator must start the cap on the container. As they proceed through the machine they are tightened automatically to the desired tension and discharged from the machine to the conveyor.

The smallest semi-automatic machine is generally a single head machine designed for operating at capacities from 1800 per hour to about 2700 per hour. In order to obtain a larger capacity, it is necessary to employ a machine using a number of spindles rather than a single head. These units are designed for having a capacity of from approximately 50 containers per minute to 120 or more. They are usually of the rotary type and are in practically all cases the same machine as the fully automatic, except for the omission of the automatic cap feeding and applying mechanism.

Both the semi-automatic machine and the fully automatic machine insure proper cap application and the question of whether or not a semi-automatic or fully automatic machine should be used, depends entirely upon the particular problem the manufacturer is confronted



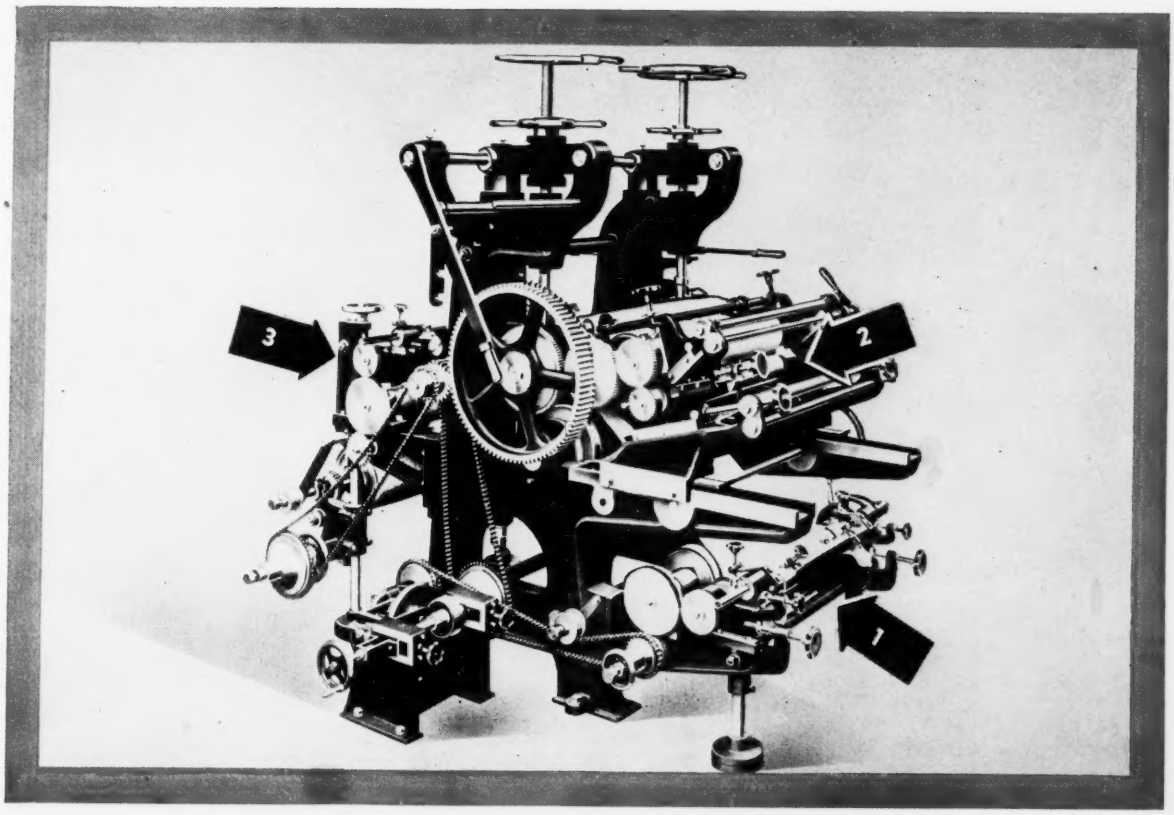
Capping unit for applying tamperproof caps to bottles. Courtesy, Consolidated Packaging Machinery Corporation

with. Opinions vary on whether or not a fully automatic machine should be used when production does not exceed 2400 containers per hour.

However, in a majority of cases, a semi-automatic machine is invariably found on the smaller production line, handling up to 2400 containers per hour. There are some producers bottling a single product using a single size bottle and cap, using automatic machines to good ad-



THE DORNBUSCH HEAVY DUTY PAPER DECORATOR AND EMBOSSER



This model, our "Number 69" is a heavy duty, high speed machine for decorating papers, by three different processes, in a single operation.

It contains, as an integral part of the machine:

1. A one-color intaglio printing unit
2. An ink embossing unit
3. A tipping unit (for bronze or color) for tipping the relief surfaces.

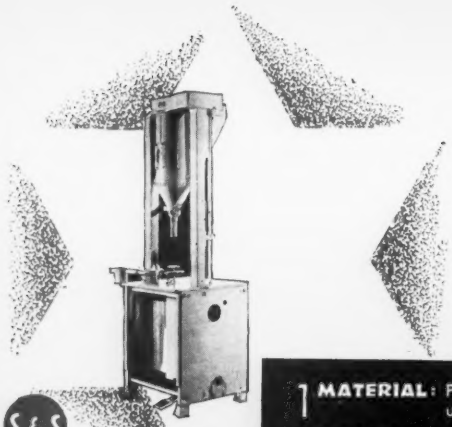
Many features of this machine are covered by U. S. Patents and are exclusively available only through this equipment.

Your inquiries are invited.

THE DORNBUSCH AGENCY, INC.

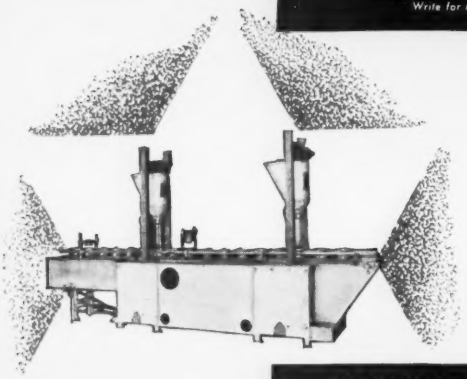
111 FIFTH AVE. NEW YORK CITY

FOR ECONOMY BRING YOUR PROBLEMS



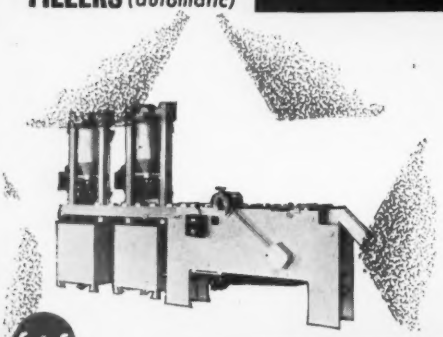
S&S UNIVERSAL FILLER

1 **MATERIAL:** Powders, granular products, pastes
CAPACITY: ½ oz. to 5 lbs.—any container
PRODUCTION: 15 to 30 per minute
OPERATORS: One
Filling by gross weight, volumetric measurement or packing.
Write for information



S&S SINGLE OR MULTIPLE UNIT FILLERS *(automatic)*

2 **MATERIAL:** Powders, granular products
CAPACITY: 1 oz. to 5 lbs.— cans, boxes, canisters
PRODUCTION: 20 to 120 per minute
OPERATORS: One
Filling by gross weight, volumetric measurement or combination of both.
Write for information



S&S BAG AND ENVELOPE SEALER

3 **MATERIAL:** Powders, cereals, seeds, chemicals, etc.
CAPACITY: Envelopes 2" to 8" high, when closed
PRODUCTION: 60 to 120 per minute
OPERATORS: None. Entirely automatic. Connects with and seals filled envelopes from powder filler or net weight scale
Write for information

S&S FILLING MACHINES
(Volumetric Net and Gross Weight)

S&S CARTON AND ENVELOPE FILLING AND SEALING MACHINES

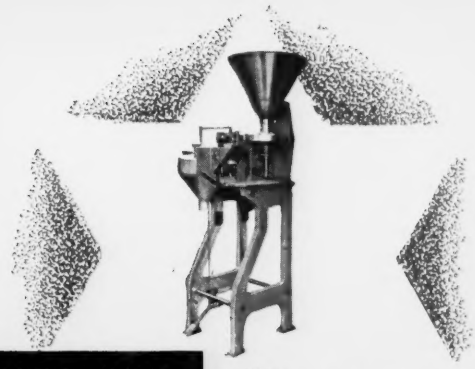
S&S TIGHT-WRAPPING MACHINES

FOR FILLING — SEALING — WRAPPING

XUM

AND SUCCESS IN PACKAGING TO . . . . S&S





4 **MATERIAL:** Crackers, nuts in shells, hard candies, etc.

CAPACITY: 4 oz. to 1½ lbs. (220 cubic inches)

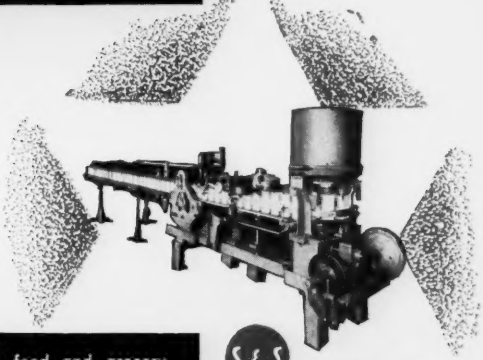
PRODUCTION: 15 to 25 per minute

OPERATORS: One

Filling by net weight.

Write for information

S&S CONVEYOR NET WEIGHT SCALE



5 **MATERIAL:** All food and grocery products in cartons

CAPACITY: Maximum carton: 10½" x 6½" x 4½"
Minimum carton: 2¾" x 1⅝" x ¾"

PRODUCTION: 40 to 75 per minute

OPERATORS: One

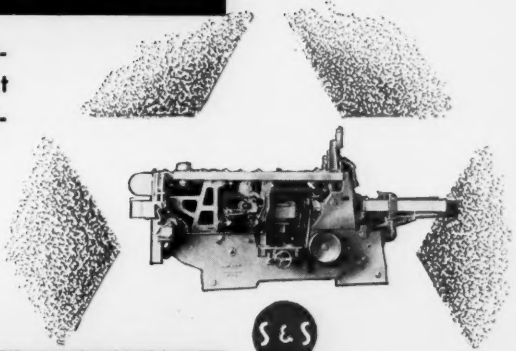
Several Models. Feeds cartons, bottom seals, fills, top seals.

Write for information

S&S NEVERSTOP CARTON FILLER AND SEALER

No matter what your particular product may be — powders, granulars, pastes, or even crackers, candies, etc.— if you use or expect to use packaging machinery, the chances are Stokes & Smith Engineers can be of service to you. Consult them.

Write for literature pertaining to your particular product.



S&S AUTOMATIC TIGHT WRAPPER

6 **MATERIAL:** All food and grocery products

CAPACITY: Maximum carton: 10" x 6½" x 4"
Minimum carton: 3¾" x 1½" x 1"

PRODUCTION: 60 to 70 per minute

OPERATORS: One

Automatically tight-wraps carton with printed label, after it is filled and sealed, making attractive, siftless tight-wrapped package for all products.

Write for information

STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

Frankford, Philadelphia, U. S. A.

Pacific Coast
MAILLER SEARLES, INC.
San Francisco & Los Angeles, California
Seattle, Washington
Portland, Oregon

London Office
23 Goswell Road, London, E.C.1.
Australia & New Zealand
F. J. WIMBLE & CO., LTD.
Sydney, Australia

PING 15 TO 120 PACKAGES PER MINUTE

vantage, but the majority of manufacturers having this output handle a variety of containers and a variety of sizes of caps and we find most of them preferring the semi-automatic machine.

The semi-automatic unit can be readily changed from one size container and cap to another and the cost of attachments for the different containers is not exceedingly high. On the fully automatic machine, a change from one size cap and container to another requires a longer period of time and the attachments, of course, are much more costly. It is probably because of this reason we find the semi-automatic machine more popular with the smaller user.

When it comes to larger capacities, or outputs, we find the fully automatic machine far more desirable inasmuch as its greater efficiency will considerably reduce production costs and gain for its user a decided economical advantage.

There is more interest being displaced in efficient high-speed equipment at this time than at any time during the past five or six years. Because the application of the turn-on type of closure is one of the most important problems with which the modern production engineer has to contend, we shall give considerable thought to the modern up-to-date automatic capping machine. Since the automatic units are most profitably adapted to those production lines operating at a capacity of 45 or more containers per minute, we will deal in detail with the rotary type only.

There are many important features to be considered in selecting an automatic capper. The most important are:

1. Output capacity
2. General flexibility
3. Mechanical and structural design

Output capacity or production capacity, should be variable and immediately adjustable to suit the production speed of the filling machine and other production units incorporated in the filling line. With fully automatic high-speed equipment, this capacity should be variable between a minimum of 45 and 50 containers per minute and a maximum of 120 and 130 per minute. Few concerns feel justified in tying up a large investment in a packaging line capable of handling a single size package and a single product, and since properly synchronized units maintain a better production efficiency, it is essential that the capper speed can be instantly synchronized with the speed of the other equipment. The old method of using change-gears to approximate the operating speeds of other units employed in the packaging line is no longer desirable. The change-gear method never permitted absolute synchronization. On the modern machines, synchronization is accomplished by the turn of a simple hand wheel. Operating capacity can be varied instantly to any desired degree, thus assuring proper synchronization and increased production efficiency.

Flexibility. The question of flexibility is one which every prospective user of automatic machinery must answer for himself. He has to consider this question from every angle as he may be handling more than a single size cap and container. The modern automatic machine must handle equally well the lug type cap, the thread cap, the smooth metal cap or the molded cap.

One of the most important things to look for in determining flexibility is simplicity. It is generally found that the most simple machine, operating with the fewest movements, can usually be changed in the shortest time. Flexibility also demands that the machine be instantly adjustable to meet production requirements and output conditions. Also it is well to bear in mind that certain shapes of containers and caps can more readily be handled on automatic machinery than others.

Mechanical and structural design. All high-speed bearings should be of the anti-friction type, preferably of the adjustable taper variety, although ball bearings of the proper size, when correctly used, give satisfactory service. Short, jerky cams wear out rapidly and are always expensive to replace. Mechanical movements, whenever possible, should be avoided.

Since we are interested in high-speed production and desire smooth, even operation, we should be certain that the equipment under consideration performs the functions of feeding and discharging the containers and tightening the caps to the desired tension with a minimum amount of effort.

LABELING MACHINES

LABELING MACHINES may be considered as belonging to two classifications: First, semi-automatic and second, automatic. The latter is divided into rotary, straightaway and can labelers.

The semi-automatic labelers were designed primarily for the labeling of beer and similar bottles, but their use today covers almost the entire labeling field. They are in greater demand today than ever because even the small manufacturer believes in machinery for its economy and superior quality of the work performed. The semi-automatic labeler, however, requires an operator to feed each package or container to be labeled. The article is placed into the machines by hand, the label or labels are applied and then the article removed from the machine by the operator. The speed of these machines being limited to 25 to 30 articles per minute or less, depending upon the character of the article and the energy of the operator, led to the development of the fully auto-

The Filler Machine Co., Inc.

1246-54 E. Montgomery Ave.
Philadelphia, Pa.

GEYER PATENTED

GEYER PATENTED

Boston, Mass.
131 State St.

New York, N. Y.
30 Church St.

Chicago, Ill.
447 Monadnock Bldg.

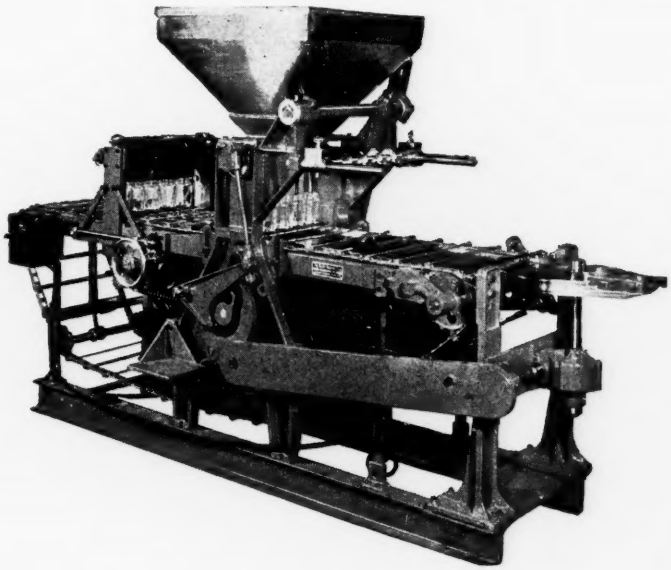
San Francisco, Cal.
61 Fremont St.

20 YEARS' EXPERIENCE

Designing and Building Filling Machines for Semi-Solid Products makes it possible for us to furnish you equipment to meet your individual requirements.

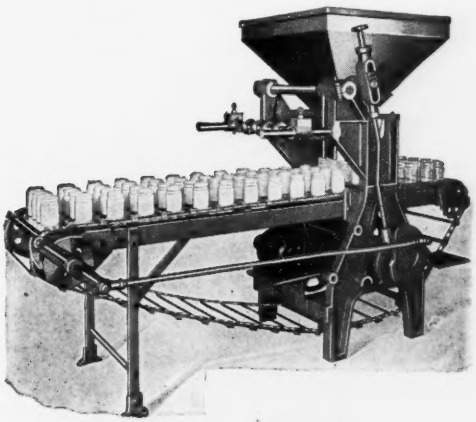
FILLING MACHINES FOR

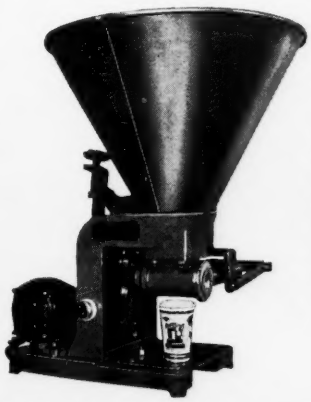
Paints	Grease	Hand Soap	Furnace Cement	Syrup
Mayonnaise	Jams	Fruit Butters	Cheese	Horseradish
Salad Dressing	Jellies	Peanut Butter	Relishes	Facial Creams
French Dressing	Preserves	Mince Meat	Mustard	Sour Cream



Four-Cylinder Filling Machine with Extended Discharge end which can be used for hand-capping or if you are using Anchor, Crown, Snap, or similar caps, heads for applying them can be mounted on and driven from the Filling Machine.

Four-Cylinder Filling Machine with Built-in Jar Cleaning Unit. Jars are thoroughly cleaned immediately before filling by a double blast of pure air and a continuous vacuum which removes every trace of dirt or other foreign matter and delivers it into a bag. Truly two machines in one requiring no additional operators. Consider the cost alone of operating washing equipment and you will find that it will pay for this machine in a surprisingly short time.



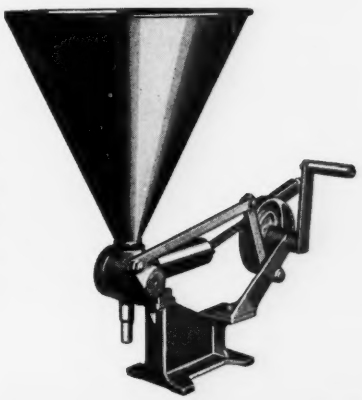


SPECIAL PRODUCTION MACHINES BUILT TO ORDER

The Single Cylinder Semi-Automatic Motor Driven Machine Handles All Types of Semi-Solid Products and all sizes of Containers. It has a speed of 15 to 25 per minute depending on size and shape of container and product to be filled.

Hand Model

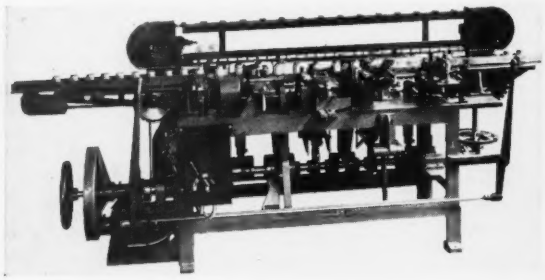
This machine is recommended for the small packer or for short runs. It has a speed of 10 to 15 containers per minute depending upon the skill of the operator.



Let Us Solve Your Filling Problems

matic labeling machine. Nevertheless, the semi-automatic labeler will always be popular and profitable for small production and where short runs of many different sizes and shapes must be labeled.

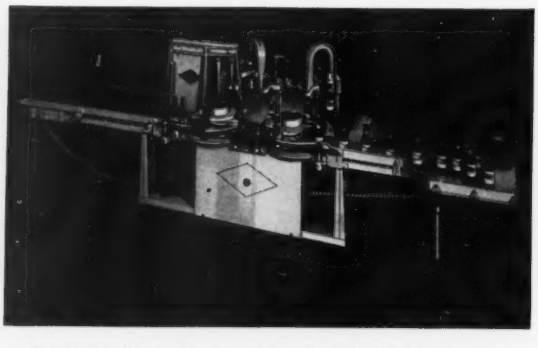
The automatic rotary labeling machine, which is an outgrowth of the semi-automatic, gums the label and applies it in a similar manner, but it has incorporated conveyors for feeding the articles through the machine



Straightaway duplex labeling unit for products packed in bottles and jars. Courtesy of Pneumatic Scale Corporation

without handling them by the operator and therefore is much faster than the semi-automatic labeler, attaining a speed of 85 to 90 per minute. A recent important improvement in this type of labeler is the attachment for applying tinfoil around the neck of ginger ale and like bottles. They are furnished by several concerns and are particularly adapted to the labeling of round bottles and jars used in the bottling and food industries as well as some chemical and drug products. They apply on bottles, the body label only, the body and neck label or the body and neck labels and the tinfoil.

The straightaway type of automatic labeling machines, which are of more recent design than those above mentioned, go further into the general field of labeling because they can be adapted to sealing or labeling cartons, boxes, wrapped cakes of soap as well as the food, drug

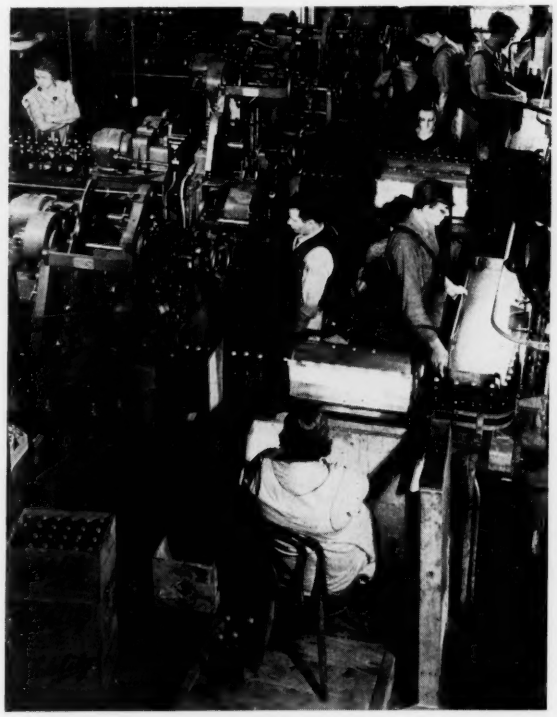


Single labeler. Courtesy, Liquid Carbonic Corporation

and bottlers' products. They have many advantages in the way of speed, accurate registration, cleanliness, adjustability and accessibility. They are built in two standard types known as single and double labelers, both of which types are also furnished in the duplex models.

The single labeler applies one label on one side of the package or container and the double labeler two labels on opposite sides simultaneously.

The single duplex labeler applies one label on each of two packages or containers at the same time and the doudle duplex four labels on both sides of two articles simultaneously. In other words, if these machines are running sixty revolutions per minute, the single will apply 60, the double 120, the single duplex 120 and the double

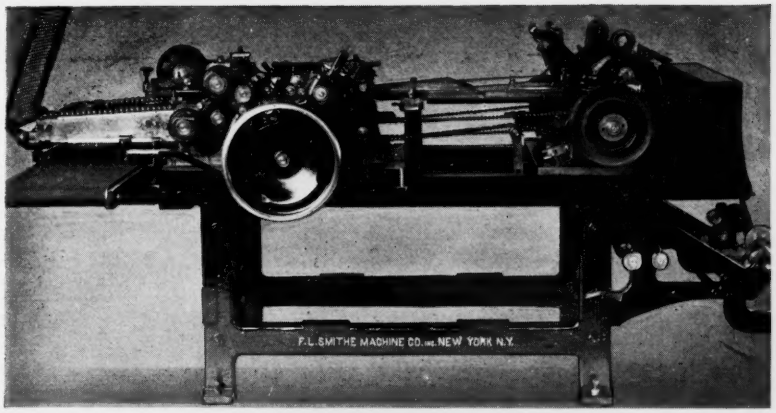


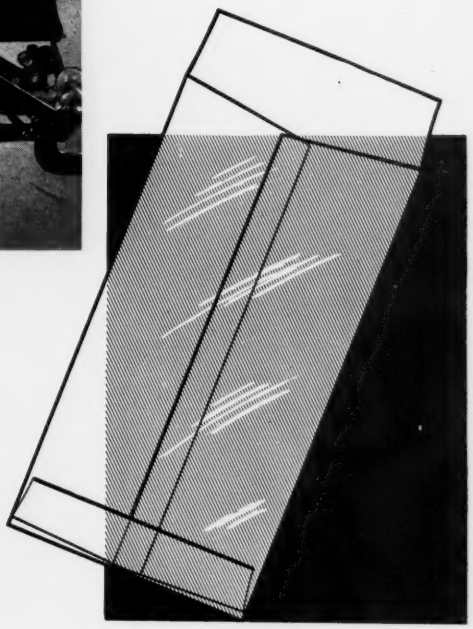
Full automatic rotary labeling units (at left) are direct connected to subsequent packaging equipment in this brewing plant. Courtesy of Economic Machinery Company

duplex 240 labels per minute although the machine is running comparatively slowly.

The duplex labeler is a recent development born of the insatiable American demand for speed and production. In order to keep pace with the filling, capping, cartoning and wrapping machines, all of which are often hooked up with an automatic labeler in a straight-line production unit, it was necessary to get greater output from the labeler without applying the glued label in less time. It requires time to apply glue to the label and more time to make the label adhere properly to the container, therefore the slow running duplex labeler can do a better job than the single machine speeded up, which seemingly throws the label at the package without sufficient time to apply it properly.

No less important is the perfection of another automatic labeling machine for round bottles where the name of the product appears in raised lettering on the bottle. In such instances it is an absolute necessity to "spot" the label in a determined position in order that every package will be labeled and look alike with respect to the lettering in the glass. Previously this was





MAKE FLAT CELLULOSE BAGS AND ENVELOPES

RANGE:
Blank length—4½" to 13⅝"
Folded width—1¾" to 10"

9,000 to 14,000 per hour! on this champion "VW" machine

Handles all types of thin transparent materials. Operates from the roll, cutting out a chip to form the side, seal and bottom flaps; folding and gluing the side flaps; severing the web; folding and gluing the bottom flap and delivering the finished envelopes . . . ready for use . . . at from nine to fourteen thousand per hour!

We also manufacture the following

CHAMPION MACHINES

Window Patching machine, using either glue or heat for adhesion.
"VWS" Machine for Satchel Bottom Bags (cellulose).
"VWM" ⅞" square min. size cellulose material envelopes.
Envelope and special machinery of all kinds.

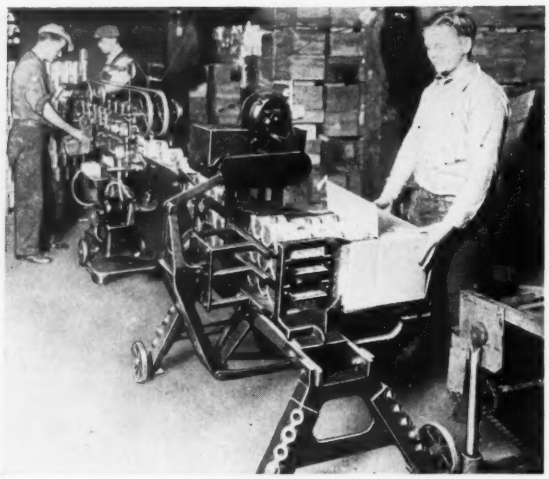
HERE'S PERFORMANCE!

A recent report showed a nine-hour production of over 115,000 cellophane envelopes—including change time—on size 4¾" x 6¾".

F. L. SMITHE MACHINE Co., Inc.

633 West 44th St. New York City

done by hand or on semi-automatic machines where the best was a good guess at the proper spot for the label. Some manufacturers have discarded their trade mark on the bottle because of the inconvenience in placing the label accurately and automatically. Examples of this spot labeling are to be found in the "Vaseline" and "Listerine" bottles. Such bottles can now be adapted where the name of the product is in the glass to tell what it is after the label is destroyed, and they can be properly labeled by fully automatic machines.

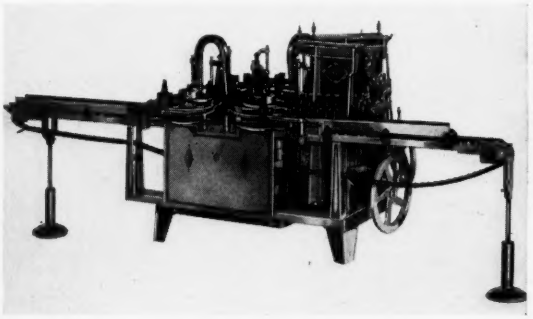


Standard type can labeler (rear) with automatic casing unit in foreground. Courtesy, Burt Machine Company

Regarding the quality of the labeling done by hand and by machine, manufacturers may say that no machine can do this work well enough. However, such objections can be answered by referring to the labeling of cigar boxes which are perhaps some of the best labeled packages in our show cases. The labels are beautiful, of many colors, embossed and cut neatly and accurately. Until recently they were applied by hand, which almost ruined their good appearance and lustre. Because paste was used instead of glue it soaked the label and destroyed the colors. Then it was placed by hand and wiped on with a rag which killed the embossing and smeared the colors. Today the automatic machine applies thin glue quickly, applies the label at once and places it even more accurately than the hand. The result is that the moisture in the glue does not have time to penetrate the label, therefore the embossing and colors remain just as the printer made them.

Incidentally, it might be said here that 95 per cent of a cigar box can be made on automatic machines which insure their uniform shape and size just as the machine-made bottle is uniform, which requisite is most important for machine handling. Unless uniformity in size and shape is obtained, efficient labeling is impossible.

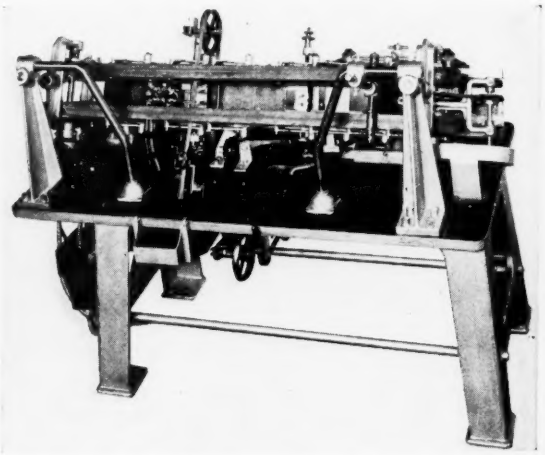
Can labeler: Where full length labels which overlap are applied to round containers, the universally known automatic round package labeler is in general use, one type of machine being for hermetically sealed, friction lid and screw top containers, while another is for slip cover containers. One of the other types of machine is employed in the food packing and kindred industries, including paints and specialties and the other in most of the coffee plants as well as several salt factories. Cans with ears such as large packages of paint are also automatically labeled through utilizing a full length label which overlaps and is died out to encircle the ears, thus supplanting the front and back label formerly used. Glass containers have also come within the scope of the automatic round container labeler, nationally known



Duplex labeler. Courtesy, Liquid Carbonic Corporation

products like Sal Hepatica being labeled on this type of machine as well as glass containers of insecticides, toilet preparations, fruit juices, etc.

This type of machine can operate at a speed of from 150 to 250 or more packages per minute because of the fact that the packages are rolled through and a comparatively simple and speedy form of mechanism can thus be utilized, hence the automatic round package type of labeler is the speediest mechanical medium available.



Unit for applying labels to cartons and cans while placed in oblique position. Courtesy of Burt Machine Company

Modern factory practice has demonstrated the importance of machine production and that manufacturer is wise who leaves no stone unturned to place all of his manufacturing on a machine basis. The use of machinery in the finishing or packing department is as important as in the actual processes of manufacture, and the manufacturer

F. J. STOKES MACHINE COMPANY

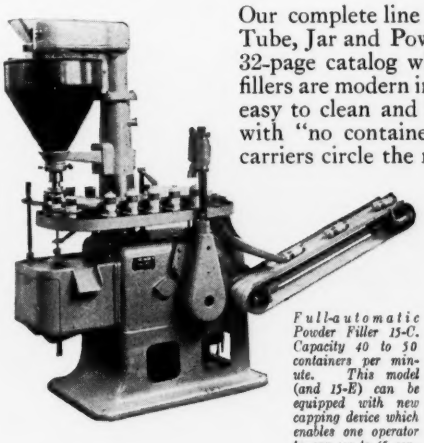
COLLAPSIBLE-TUBE, JAR AND POWDER FILLING EQUIPMENT

New York Office—
103 Park Avenue

5990 Tabor Road, Olney P.O.
PHILADELPHIA, PA.
Cincinnati—230 Wilmuth Ave.

Los Angeles Office—
4990 Melrose Avenue

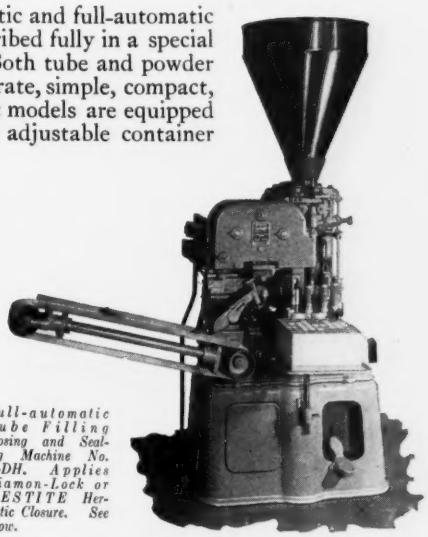
Our complete line of hand-operated, semi-automatic and full-automatic Tube, Jar and Powder Filling Equipment is described fully in a special 32-page catalog which will be sent on request. Both tube and powder fillers are modern in every respect. They are accurate, simple, compact, easy to clean and "change over." The automatic models are equipped with "no container—no discharge" controls and adjustable container carriers circle the machines to conserve space.



Full-automatic Powder Filler 15-C. Capacity 40 to 50 containers per minute. This model (and 15-E) can be equipped with new capping device which enables one operator to cap up to 65 containers per minute.

EQUIPMENT

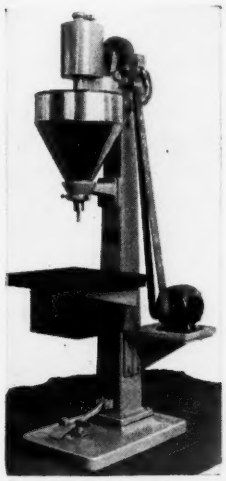
Tube Filling, Closing and Sealing Equipment
Jar and Can Filling Equipment
Powder Filling and Capping Equipment
Tablet and Pill Making Machines
Counting and Bottling Machines
Mixers—Kettles
Conveyors
Bottle Washers
Special Filling Machines



Full-automatic Tube Filling Closing and Sealing Machine No. 90-DH. Applies Diamon-Lock or WESTITE Hermetic Closure. See below.

POWDER FILLING EQUIPMENT

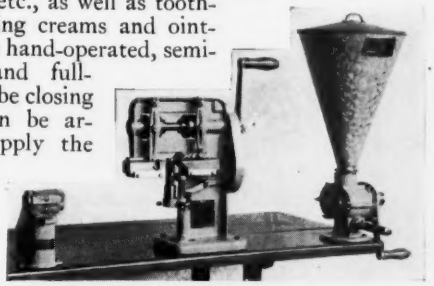
Our Powder Fillers, which will handle practically any powdered or granular product including chemicals, pharmaceutical powders, foods, spices, face and talcum powders, insecticides, dyes, etc., include the 14-A Powder Filler which is a semi-automatic, general purpose machine. Compact, simple in design and adjustments. Capacity 15 to 45 per minute. The 15-B Powder Filler is another semi-automatic machine especially suited to the needs of the manufacturer with a varied line. Exceptional accuracy and cleanliness insured by special auger-type filling mechanism, slow-motion agitator and two-step fill. Compactness and simplicity of design save floor space and time in operation. This machine is ruggedly built and so designed that, as production grows, it does not need to be discarded but can be converted and expanded to a full automatic machine. The 15-C Powder Filler is a full automatic model for large production and sampling. Can also be used as basic model for short runs or special products. This machine is the 15-B (basic model) converted and expanded by adding certain attachments. The 15-E Powder Filler is especially suitable for filling small containers such as face powder boxes. Has all the 15-C features (see previous section) but operates at high speeds (70 or more per minute). Can be equipped with automatic "take off" for filled containers.



No. 14-A Powder Filler. Semi-automatic; capacity 15 to 45 containers per minute.

TUBE FILLING EQUIPMENT

Depending on the model (over a dozen models available) and the use of the proper nozzles and hoppers, our tube fillers will handle practically any liquid, semi-liquid or paste, including such products as fish paste, meat extracts, honey and other food products, rubber cement, artists colors, library paste, paint, grease, insecticides, etc., as well as toothpastes, shaving creams and ointments. The hand-operated, semi-automatic and full-automatic tube closing machines can be arranged to apply the patented Diamon-Lock Closure (no clip required) or the new WESTITE Hermetic Closure, which has the following advantages:



Hand-operated filling, closing and sealing equipment. Sealing machine (left) applies Westite Hermetic Closure.

1. Prevents closure seepage and corrosion
2. Saves all clip expense
3. Shorter tubes used
4. Prevents product deterioration
5. Uses simpler mechanism

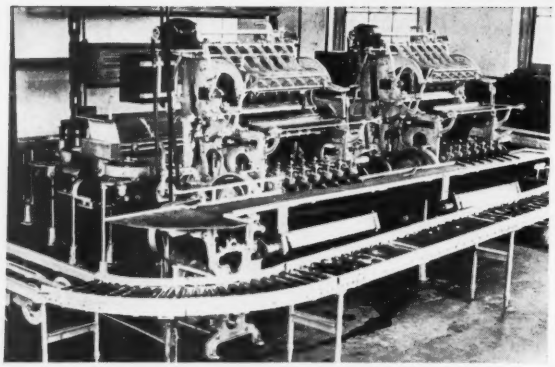


No. 2-C Tube Filler. Semi-automatic; capacity 20 to 30 per minute.

Send for Catalog 34-F

ADVISORY SERVICE

Our long experience in designing and building filling equipment for collapsible tubes, jars, cans, bottles, boxes and cartons enables us to recommend the most economical and efficient set-up for any product and, if necessary, the proper auxiliary equipment. This advisory service is available upon receipt of information on your production requirements and samples of material and containers. Special filling equipment developed for special products. Attachments for filling granular materials, for packing and for weighing, etc., are recommended, where advisable.



Six wide automatic multiple labeling units installed in brewing plant. Courtesy of Edward Ermold Company

who extends his machine methods to these departments is bound to profit more than the one who does not take advantage of the equipment offered.

In general, a labeling machine can be equipped with attachments to handle a manufacturer's package without alterations but occasionally a minor change in container or label will simplify the work and enable the labeling to be done with a minimum of care. Where new packages or labels are designed it is well for the manufacturer to bear in mind a few simple facts that will enable him to favor the labeling machine and to operate under the most ideal conditions. The best labels are made from thin paper. soft and comparatively light in weight so that they will conform easily to the shape of the container. The surface of the container should be such that the label will naturally follow the contour without wrinkling. A spherical surface is impossible, for the label must curve in two directions and will not lie smooth. Where hexagonal, octagonal or similar containers are used the size of the label should be such that the edges of the label should extend well over the corners of the container and on the flat sides to prevent the edges of the label from becoming loose after the label had been wiped on and the container removed from the machine. The observance of these rules will make for efficient practice in the labeling of packages.

AUTOMATIC WRAPPING EQUIPMENT

by ROGER L. PUTNAM

THE general subject of wrapping, whether by hand or by machine, is probably familiar to every one. There are three important reasons for wrapping packages: economy, appearance and protection. Wrapping machines are available for wrapping articles in almost every conceivable type of wrapper. The good old standbys of lithographed paper wrappers and waxed paper are still in vogue, but machines are just as applicable to the newer styles of foil, transparent cellulose and other modern materials. The wrapping machine art has kept pace with the development of all of these new materials. With the use of the electric eye, for instance, it is possible to automatically wrap containers or products in printed cellulose or printed foil, thereby obtaining beautiful effects and increasing the marketability of the package. And other developments are being made constantly.

The wrapping machines in most general use are those for wrapping boxes of varying shapes and sizes. All modern machines for this work are adjustable. This is particularly important, looking forward to possible changes in raw material prices, and, therefore, changes in size. The user may have but one size to wrap at the time the machine is ordered, but he wants to be sure that he can alter his size without fundamental and costly rebuilding, should conditions change.

For the ordinary sizes of cartons, most manufacturers have at least two models, one in the Cadillac-LaSalle class, giving high production and long life. Where these machines use heat, they are generally furnished with thermostatic controls, and they are equipped with other automatic devices for high production. There are also available machines in the Ford-Chevrolet class, at something like half the price of the other models. These are equally adjustable, and sometimes run at just as high a speed, but to reach this price, some of the refinements must, of necessity, be eliminated.

Machines of either type can be built with a stack feed to feed wrappers from a pile of cut sheets, or with a roll feed to cut the wrappers from a continuous roll of material, and the higher price machines can be equipped to put labels on the ends, making the familiar biscuit type of wrapping. In recent years, the roll wrapping has been much the most popular, using the electric eye where printing is required. Any of these machines can be built to handle the standard wrapping materials: cellulose, waxed paper, printed wrappers or foil. They are designed to run at speeds commensurate with other package handling machinery, so that continuous production lines—packages automatically feeding from one machine into another—can easily be arranged. For really small packages, such as razor blades, specialized higher production machines are available, which also have incorporated in them the flexibility necessary to meet changing conditions.

While box wrapping is an important part of the wrapping machine art, it is only one part. For candy, ma-

ECONOMIC MACHINERY COMPANY

Manufacturers of WORLD LABELERS

WORCESTER, MASS.

Chicago: Napoleon Savaria, 410 Monadnock Bldg. New York: 15 Park Row Toronto and Montreal: Golden Gate Mfg. Co., Ltd.

PRODUCTS

AUTOMATIC AND SEMI-AUTOMATIC LABELERS for applying labels on all types of bottles, jars, tumblers and other articles.

Economic Machinery Company has been engaged exclusively in the manufacture of labeling machines for more than thirty-five years.

Superior mechanical construction combined with the best of materials and skilled workmanship makes World Labelers the most satisfactory and durable machines obtainable. Thousands of satisfied customers heartily endorse Economic service.

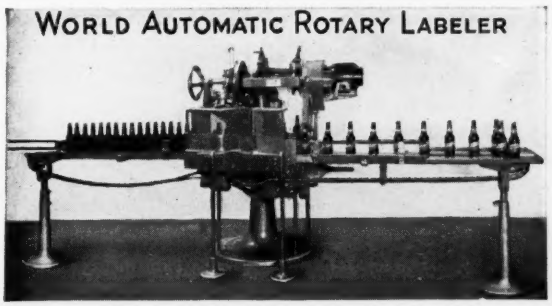
The company manufactures a complete line of hand-fed and automatic machines to meet all labeling requirements successfully and economically.

Every World Labeler is guaranteed to give satisfaction.

Write for advice regarding your labels, and send *labeled samples* of your bottles or packages showing the way you want them *labeled on the machine*. Detailed information and quotation will be sent to you promptly.

Let World Labelers solve your labeling problems.

All World Labelers are equipped with Zerk lubricating system.



THE WORLD AUTOMATIC ROTARY LABELER is the most efficient automatic labeler ever produced for labeling round bottles or jars. It is designed to meet the large production required in breweries and large beverage and food product plants.

The labelers are constructed either right-hand or left-hand. Where high speed equipment is installed our double unit will give any speed required and produce most satisfactory results.

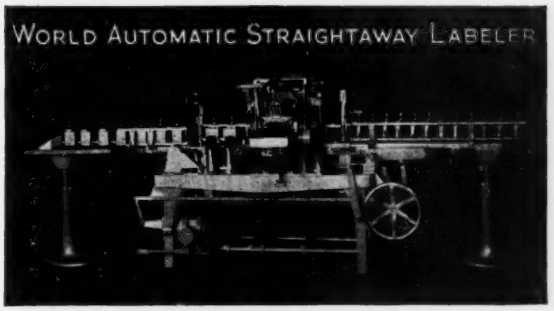
The labelers can be equipped with attachments for applying body labels only or body and neck labels on various sizes of bottles and jars. We can also furnish labelers for applying body and neck labels and foil, in one operation, on quart beverage bottles and other sizes.

Due to its simplified construction, all parts are readily accessible. The cost of maintenance is very low. Users of World Automatic Rotary Labelers reduce their labeling costs to a minimum.

Conveyor corner stands, and separate conveyor with independent motor drive, can be furnished as required.

The WORLD AUTOMATIC STRAIGHTAWAY LABELER is fully automatic, and has been designed to label flat, square, round, oval or panel bottles, modernistic jars or flasks and other packages. It is a custom built labeler, constructed for each individual customer's particular requirements.

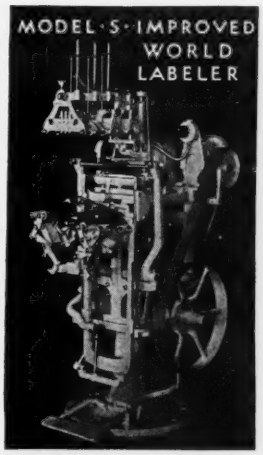
The bottles are automatically timed when conveyed into the labeler and, by means of special patented labeling mechanism, the entire surface of the label is gummed, and accurate registration of labels and smooth labeling guaranteed.



The labeler is built in various models. The single labeler applies front labels only, and the double labeler applies front and back labels in one operation. We also make special high production Straightaway Labelers for labeling two bottles at a time, operating at a speed of 100 or more per minute.

The labeler is equipped with feed and discharge conveyor and can be connected to other automatic units.

The labeler is heavily constructed and has proven most successful in many of the large production plants throughout the country.

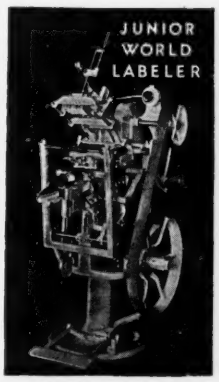


MODEL S IMPROVED WORLD LABELER is the latest type of the IMPROVED World Labeler, and has many exclusive mechanical features and improvements, developed by manufacturing experience of many years. It can be equipped with labeling attachments to label any size bottle, from small vials to gallon jugs.

The IMPROVED World Labeler is very generally used for applying body and neck labels and foil in one operation on quarts and other sizes of beverage bottles.

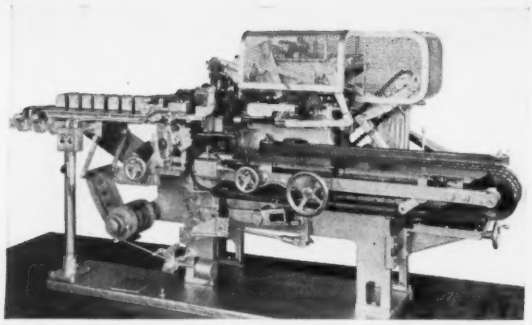
This labeler can be fitted with special attachments for applying labels on whisky flasks, and also for applying labels all around bottles.

It is ruggedly constructed, quiet and simple in operation, and will label your packages efficiently and economically year after year. It is the most flexible labeler on the market.

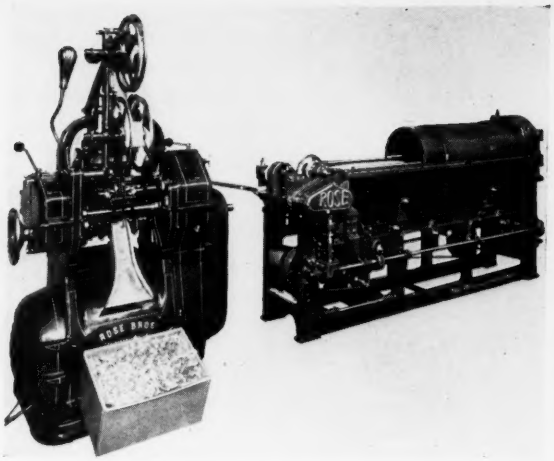


The JUNIOR WORLD LABELER is the smaller type of hand-fed semi-automatic, belt or motor-driven labeler. It is designed for applying body labels only on round bottles, jars, or other containers, where the label does not extend more than half way around the bottle.

It is simple in operation and will materially reduce labeling costs as compared with hand labeling.



Wrapping machine for small articles—in this instance for wrapping yeast cakes at 60 per minute. Courtesy, Battle Creek Bread Wrapping Machine Company



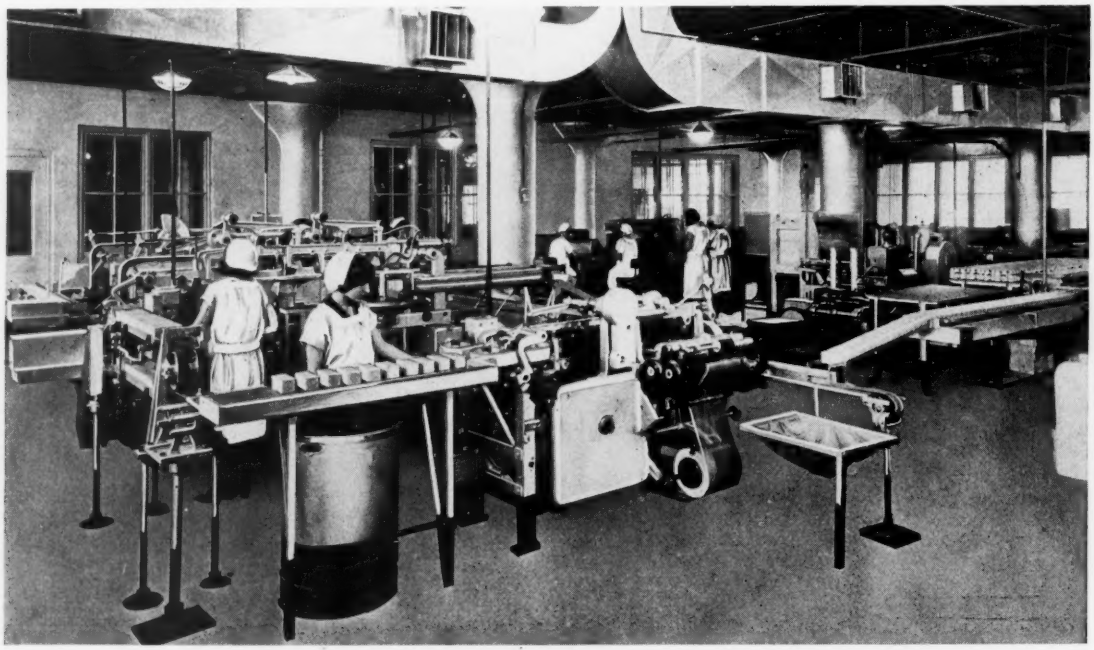
Automatic batch roller producing and wrapping 850 pieces of toffee or hard candy per minute. Courtesy, Rose Bros., Ltd.

chines are available to take the candy in plastic form, form it, cut it and wrap it, either with folds or with twisted ends, and speeds can be attained up to 500 or 600 a minute. With twisted wrapping, the machine can be arranged so that the twisted ears can be colored, and colored inserts can be put inside the wrapper. Old standbys, such as kisses or caramels, can be dressed up now in a highly attractive and salable form, and as a result, the merchandising of candy is taking on a new lease of life. Irregular candy bars, too, can now be wrapped by machines, as well as the standard molded bars, and here again, the electric eye has helped to add to the appearance as well as the economy of the package.

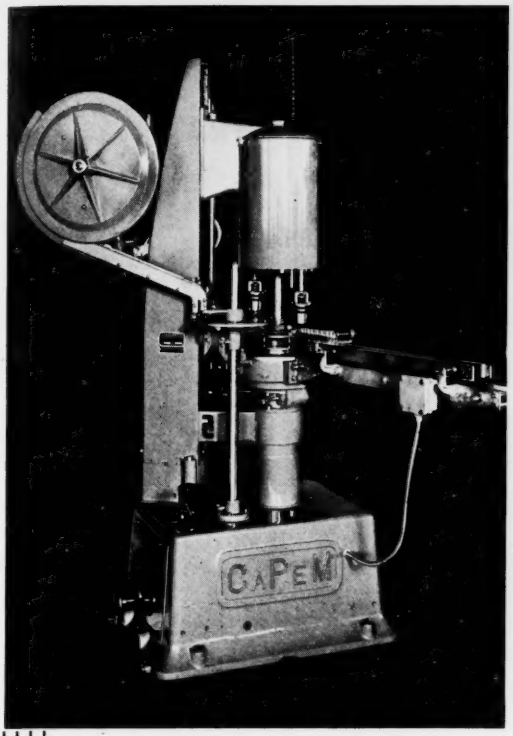
The advent of cellulose wrapping, which is so hard to tear, has made it imperative to find ways of opening packages easily, and much attention has been given in recent years to easy-opening devices of all sorts. The familiar tearing strip in chewing gum packages is an example, and it is quite a mechanical achievement when we realize that machines producing these packages run as high as 600 individual sticks per minute.

In considering machine wrapping, three elements always enter the picture—speed, adjustability and price—and the three have an intimate relation to one another. The more specialized the machine, the higher is possible production, and the more difficult it is to change the size. At one extreme are the high-speed, chewing gum machines just mentioned; at the other extreme are the carton wrapping machines, based on the principle of bread wrappers, where a size change can be made in less than five minutes over a wide range, but whose speed is limited to slower operations.

The manufacturer of a specialized product may often feel that an automatic wrapping machine is beyond his



Automatic wrapping and bundling units at a pharmaceutical manufacturing plant. Courtesy, Package Machinery Company



CaPeM High Speed Rotary Capper

FAULTLESS.. *to the eye*

1936 models in both CaPeM and HOEPNER

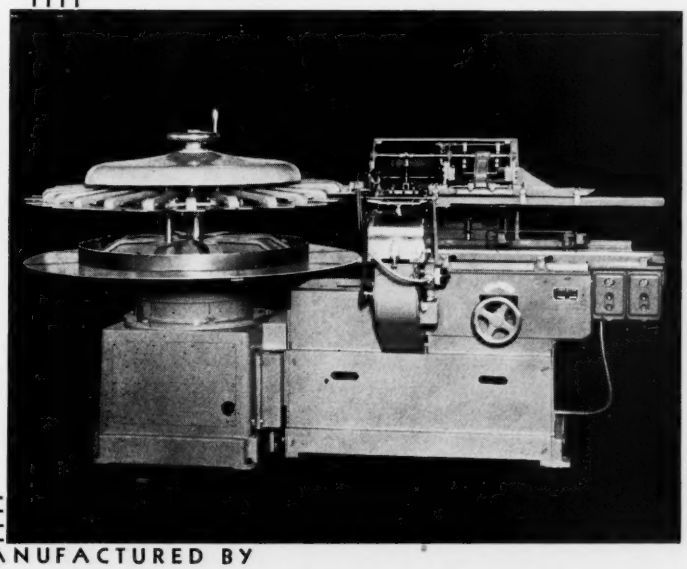
sustain your admiration with equally flawless performance

Eye appeal is but a by-product of the re-design that has brought these world famous lines to even higher standards of performance and production efficiency. The true measure of their beauty is seen only when they are in action . . . turning out, automatically, better work and more of it at a lower cost than ever before.

No wonder the leaders . . . in so many packaging fields . . . concentrate their capper, scale and bag-closer purchases within the CaPeM and HOEPNER line. No wonder so many users of new installations report new lows in production costs . . . new highs in output!

Our broad experience is available to you without obligation.

Sealtite Automatic Paper Bag Closer



A-B-C's

of leadership taken from our customer files

A—American Sugar Ref., American Stores, Albers Bros. Millg., Allied Products, American Beet Sugar, Avery Salt Co., Amalgamated Sugar, American Cyanamid, Arbuckle Coffee Co., Armour & Co., Armstrong Cork Co., etc., etc.

B—Bristol Myers Co., Bordens, Best Foods, Bayer & Co., Beechnut Packing Co., Boots Ltd., Burma Vita, Burroughs Bros., Barton Salt, etc., etc.

C—Commercial Solvents, Colgate Co., California Packing Co., Cheesborough Mfg. Co., Continental Distilleries, Co-operative G.L.F., Campana Corp., Corn Products Ref., etc., etc.

MANUFACTURED BY

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 West Ave. BUFFALO, N. Y.



Dozen or half-dozen packages are bundled by machine

reach because no standard one is available, and yet, machines originally made for one article can often be modified slightly to wrap something entirely different. A cigar wrapping machine perhaps can wrap pills, a chocolate bar wrapping machine can wrap plugs of chewing tobacco, or a soap wrapping machine can wrap trays of hard candy. The adaptability range is wide.

For most package producers, the appearance and protection of the contents come first, but economy is a close second, and it is often true that the latest machines can use less material, and can run at higher speed than older models, and this unit economy multiplied by a number of packages can run into a very big figure. A further step in economy can also be secured by using a bundling machine which would assemble and wrap together a group of the consumers' packages, to make the unit delivery to the dealer. Machine bundling has made great strides in the biscuit, pharmaceutical and match industries. In this case, the argument is primarily economy rather than appearance or protection, but the resulting savings here can be used to increase the appearance and protection of the consumer package, and thus make an economical marketing unit.

SEMI-AUTOMATIC WRAPPING EQUIPMENT

SEMI-AUTOMATIC MACHINES are quite extensively used for performing varied operations in packaging departments, such as weighing, filling, measuring, carton sealing, wrapping, etc. Among users may be listed the following: New concerns starting with limited capital; established firms, medium or large, introducing new items with limited production needs; firms having low labor unit costs (certain sections in the South); concerns needing inexpensive equipment for peak productions in their packaging operations.

Where several sizes of packages and different amounts of materials must be handled in small containers, whether their containers be cartons, cans, bags, bottles, jars or envelopes, flexible machinery is usually desired. For a machine to be flexible, it must be simple in design to allow quick and easy changeover from one size to another at all times.

Semi-automatic machinery obviously has its advantage over other kinds and is preferred for such packaging conditions. Aside from the fact that semi-automatic package machines are considerably less expensive, they do not require the skilled mechanical supervision as the operators can quickly learn the simple adjustments. For private brand packing, short runs, limited output, semi-automatic units prove in a practical application as economical as automatic machines.

There are many types and kinds of semi-automatic packaging units. Besides liquid or semi-solid filling machines, labelling machines, case sealing machines, wrapping machines, etc., there are units for handling dry materials, whether powders, crystals, or granules filled into any style containers, also semi-automatic carton sealing machines.

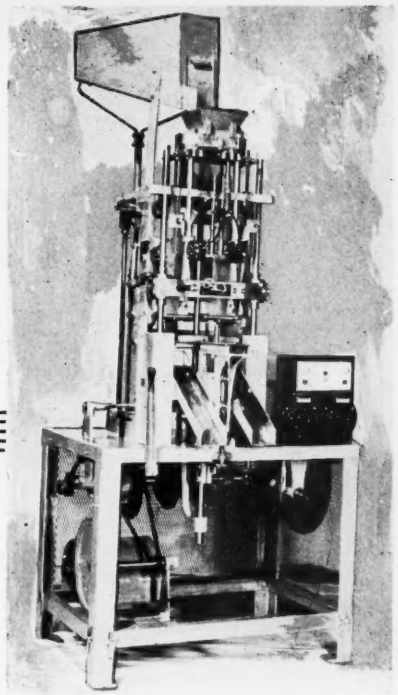
Units for filling come under one of three classifications. They may be net weighers, which weigh into a weighing bucket and discharge into a container a predetermined amount of the material. They may be gross weighers, which feed the materials directly into the container, the container in this case being a receptacle. Gross weighers are used where the product is sticky or of such a nature that it cannot be weighed in a practical manner in weighing buckets due to building of materials in the buckets causing inaccuracies. The third type is volumetric measuring machines. They may operate by a principle of filling into pockets which are adjustable or by a predetermined number of revolutions of the auger feeder or a combination of both.

Carton sealers of the semi-automatic type primarily consist of a gluing roll which applies glue to two sides of a carton flap. This flap when folded adheres to the short-end flaps and the outside flap making a four-fold glued, sealed end. These sealers can be purchased in the form of a glue roll with counter shaft or with pressure drier. They operate on cold glue and in some cases can be used in connection with automatic net weighers. There are perhaps a dozen sizes of semi-automatic sealers producing anywhere from 6 to 25 packages per minute requiring one or two operators.

The semi-automatic wrapping machine fits admirably into large and small plants alike. This is best proven by the extremely favorable acceptance it has met throughout the United States during the past few years. Confined to no single industry or related group of industries, these machines are being used everywhere for wrapping not only biscuits, cakes, candy, coffee, dried fruits and other food products, but drugs, tobacco, soap, batteries, clothespins, paper napkins, greeting cards and an unlimited variety of merchandise.

Increase Sales While Cutting Costs? Yes! it Can Be Done! with the remarkable

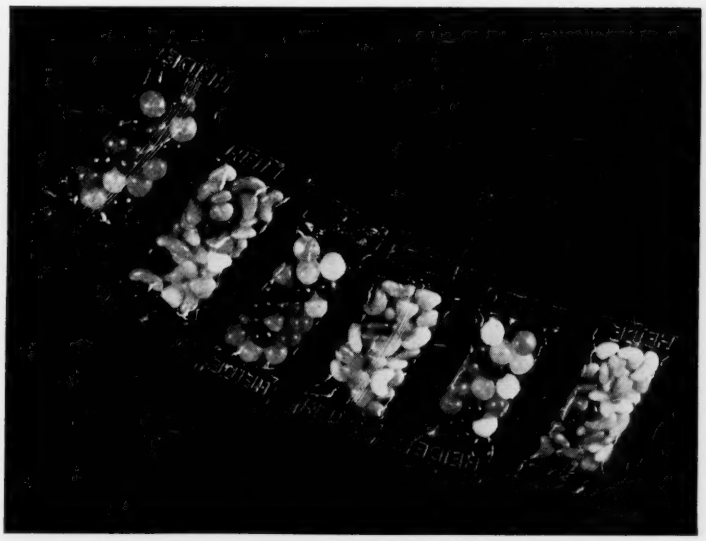
TRANSWRAP
WRAPPING MACHINE



The TRANSWRAP method substantially cuts costs for products already wrapped in transparent cellulose and makes cellulose wrapping possible for many products where formerly material *and* wrapping costs *combined* were prohibitive.

How? By wrapping and crimping from 60 to 190 packages per minute! By using only a single, unskilled operator to handle the output of one *or more* machines. By measuring, weighing or counting with unusual accuracy! By producing a finished package that is a joy to behold... one that proves its appeal by mounting sales whenever it is adapted.

Strong claims, these. But we'll be glad to back them up with a personal demonstration and with facts gathered from the records of many present TRANSWRAP users. Challenge us... by mail, wire or phone.



Check These 8 Advantages against any machine on the market at any price!

1. Feeds products individually or wraps predetermined quantities or amounts.

2. Forms air-tight, heat sealed packets of uniform shape and size.

3. Fully automatic action throughout!

4. Complete unit occupies 6 x 6 ft. of floor space.

5. Completely and speedily adjustable to different sizes of packet!

6. Power requirements: ½H.P.-¾H.P.

7. Accurately registers designs or printing to desired position on packet with photo electric cell.

8. Can handle candy, powder, tablets, puffs, combs, tooth brushes, cereals, crackers, pads—any material that can be handled automatically in this type package.

TRANSPARENT WRAP MACHINE CORP.
313 HUDSON STREET **NEW YORK CITY**



Semi-automatic machine for wrapping bottles in transparent cellulose. Courtesy, Miller Wrapping & Sealing Machine Co.

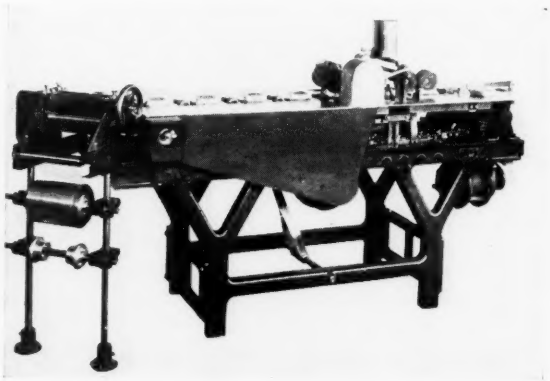
Very flexible and capable of adjustment from one size package to another in several minutes' time, one machine performs a multitude of wrapping jobs, even cutting its own sheets to size from the roll and delivering them singly to the operator for speedy pickup. The operator then puts the sheet around the package and sets both into the wrapping machine where folding and sealing is automatically completed. Even soft bakery goods such as cakes, or packages composed of many loose units such as paper towels or napkins and other items formerly thought impractical for machine wrapping lend themselves readily to the semi-automatic wrapping machine without breakage or damage of any kind. The reason for this that there is just sufficient human handling to make allowances for the physical characteristics of these packages, a condition not possible with fully automatic equipment.

The ability of the semi-automatic wrapping machine to wrap packages composed of two or more pieces stacked or placed together loosely with little or no cardboard support, as well as its ability to wrap soft cakes and candies has been an assistance worth thousands of dollars to producers of this kind of merchandise. It has enabled them to abandon costly hand wrapping in favor of neat, mechanically wrapped packages. Quite frequently it is found machine wrapping requires less wrapping material per package too, also the heat-sealing feature of these machines has eliminated the expensive accessories necessary to glue sealing as well as the mess associated with this method. Investment for a compact, thoroughly efficient semi-automatic wrapping machine is surprisingly little.



Unit for wrapping and sealing (transparent cellulose) packages of dates. Courtesy, Miller Wrapping & Sealing Machine Co.

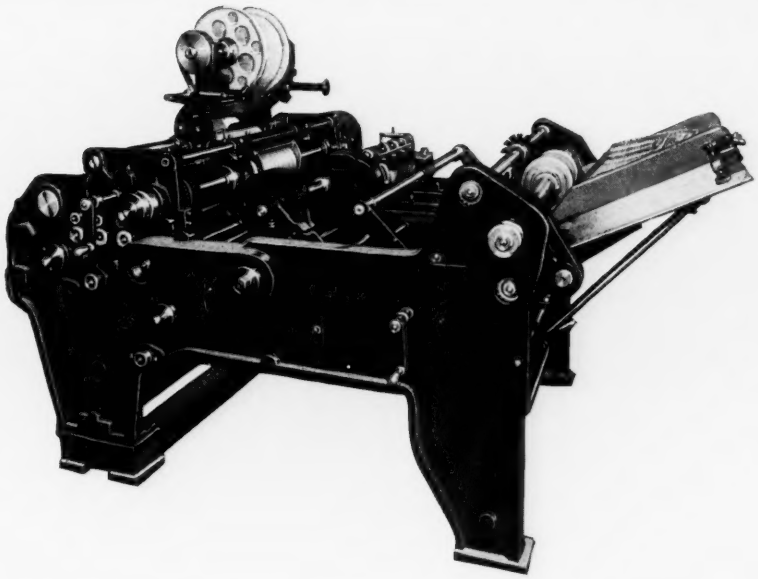
Trays of dates and other dried fruits are quite often wrapped on semi-automatic equipment. Complete trays are not necessary, however. Many manufacturers merely package their fruit on a cardboard base only, or a cardboard base with side or end flaps, then wrap it in transparent cellulose on the semi-automatic wrapping machine. The slight amount of human handling enables provision for loose pieces or irregularities in shape since these can be pressed into place without a second's delay as the packages are set into the wrapping machine. The small differences in package shape that occasionally occur can be easily taken care of with this type equipment, and for extremely perishable goods, such as butter, chocolate, cakes with soft icings and similar items, provision is made to keep the product moving through the sealing plates without intermission. This means that even products subject to easy melting or in other ways unfavorably affected by heat, can be wrapped efficiently without danger of spoilage.



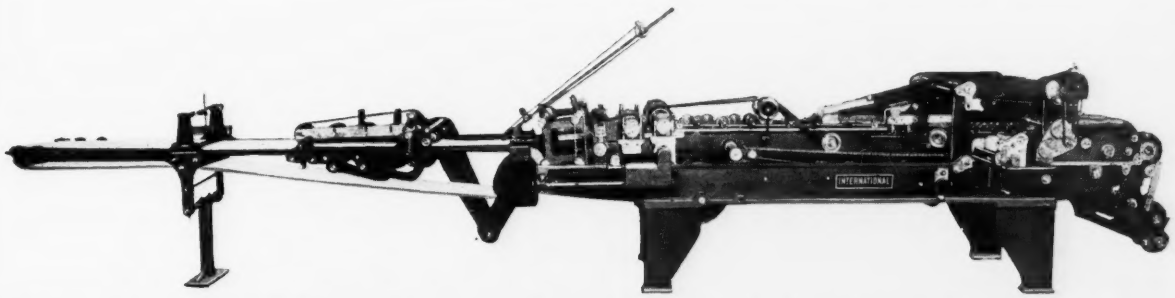
Pie wrapping (transparent cellulose) machine. Operates at 40 per minute. Courtesy, Amsco Packaging Machinery, Inc.

The candy department of the Walgreen Drug Company finds the semi-automatic wrapping machine a valuable asset in wrapping their candy cartons in transparent cellulose. It keeps the finished packages moving faster, conserves space by concentrating production into a small area, giving uniform results and tightly sealed packages that do not "pop open" after they have left the factory. The operator merely places the cellulose around the carton, sets it in the wrapping machine and trips a lever. The folding and sealing are then automatically completed, and at the same time another sheet of cellulose is cut from the roll and laid out for the next package. Cartons of many sizes are wrapped in the

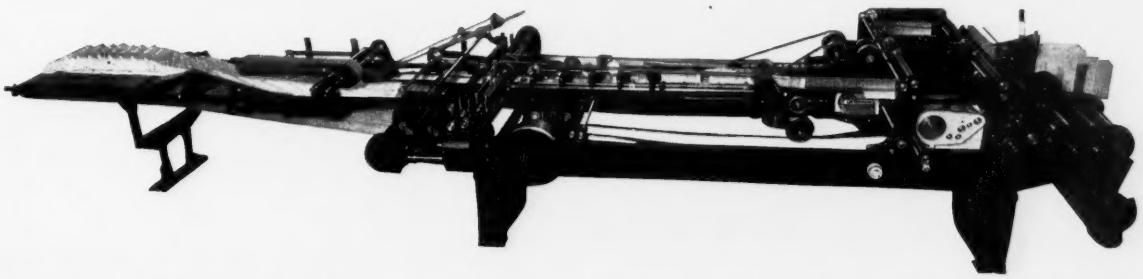
1937 EQUIPMENT for the 1937 BOXMAKER



International Model CC-B Carton Patcher and Printer. Blank range: Maximum length 18″ by 32″ wide; Minimum length 3½″ by 4¼″ wide. Transparent window range: Maximum 11″ by 11″; Minimum length 1¾″ by 1¼″ wide.



International Model U Folding Box Gluer. Range ¾″ to 12″ wide folded flat, 2¼″ to 18″ in length.



International Model B New Economy Folding and Gluing Machine. Range 1″ to 20½″ folded flat, 3″ to 40″ in length.

INTERNATIONAL PAPER BOX MACHINE CO.

NASHUA, N. H., U. S. A.

English Representatives
Andrew & Suter
23 Goswell Road
London, E. C. I, England

Canadian Representatives
Manton Bros. Co.
97 Elizabeth St.
Toronto, Ont.



Wrapping and sealing confectionery boxes in semi-automatic unit, which is adaptable to transparent cellulose or other wrapping materials. Courtesy, Miller Wrapping & Sealing Machine Company

course of a day at a speed of from fourteen to sixteen a minute. This company estimates time required for a complete changeover from one size package to another at three minutes.

Bottle wrapping is another achievement of the semi-automatic wrapping machine. Using many of the principles of the package wrapping machine to retain the valuable feature of adjustment for many sizes, this equipment also provides a clever means of neatly tapering the cellulose wrap from shoulder to cap of bottles. Here too the hand work is very limited. The cellulose sheet is simply placed around the bottle, the bottle and sheet set in the wrapping machine and a lever tripped.

Underlap folding is the newest feature of this equipment. At the option of the buyer, and at a very nominal increase in price, the machine can be equipped so that instead of making the conventional fold an "underlap" or bottom fold is made. This is of great advantage on extremely shallow packages or packages with uneven ends where ordinary end folding would fail to give a firm seal or proper protection. This principle is particularly useful for wrapping shallow packages of greeting cards, flat bakery pieces, extension edge or flanged candy boxes and similar items. Folding, sealing, and ejecting of the wrapped bottle is then automatically completed at a speed of from six to nine hundred an hour.

To keep pace with the increasing popular use of printed wrapping materials, the electric eye is now also available with semi-automatic equipment, cutting printed sheets from the roll with unerring accuracy so that the design or printed matter may be registered in the exact desired position on each succeeding package.

TIGHT WRAPPING EQUIPMENT

by CARL E. SCHAEFFER

THE TIGHT WRAPPED PACKAGE is now a standard type of package with many manufacturers and packers of food and grocery products. This type of package was first adopted a number of years ago by some of the cereal manufacturers, where its greatest advantage was in keeping the weevil from getting into the contents, and proved so satisfactory for cereals that it has been adopted for use with many other products, such as flour, soap powders, salt, coffee, etc.

Various types of cartons with inside bags or liners can be used with the tight wrapped package, as well as different types of opening devices. In the salt industry the tight wrapped package is now being used by many of the leaders, and one of the most satisfactory salt packages is a carton made of asphalt-lined board which is tight wrapped on the outside. For coffee, wax or parchment paper liners are generally used on the inside of the carton and the cartons are tight wrapped on the outside. For flour, the regular chipboard carton is used and some of the packers have these made with a blue lining on the inside which gives a whiter appearance to the flour. Various combinations of cartons, liners and labels can be used to insure the product getting to the consumer in the best possible condition.

Another advantage of the tight wrapped package is for the packer or manufacturer who packs private label brands for different customers. If he uses the tight wrapped package he can use the same carton and merely have different labels for the different brands. This means a saving as it is not necessary to carry a number of different printed cartons on hand. With the tight wrapped package various types of labels giving different styles of end folds can be used to suit the conditions. Some labels are die-cut so that each end flap of the label is glued down separately. Others are rectangular, making a gusset fold on the end. For the usual tight wrapped package, the labels are printed on a 40- or 50-lb. machine finished paper.

Recently the varnished label has been adopted by a number of packers and manufacturers using the tight wrapped package, and the package tight wrapped with the varnished label makes an ideal container for many food and grocery products. The varnished surface makes the package attractive, the colors show up to advantage and the varnished surface will not accumulate dirt or dust as quickly. Also, the package is more moisture-proof as the varnish gives the extra coating on the outside. Another variation of the tight wrapped package is the one



These paper bags are packed and sealed on the Arenco Type VUM Flour Packing Machine. This machine automatically fills, weighs, closes, seals and checks the weight at a speed of fifteen 5-pound or 10-pound bags per minute, with extremely close tolerances. Machines are also built for packing coffee, cereals, etc., in similar bags.



The Arenco Tablet Packing Machine, Type VYP, forms packages from blanks and fills them at the rate of fifty per minute, with or without inner liner and outside seal. Suitable for tablets, pills, throat lozenges, hard candies, etc.

We also manufacture all types of machines for the tobacco industries

Packing machines for cartridges, hard bread, etc.

Labeling and wrapping machines

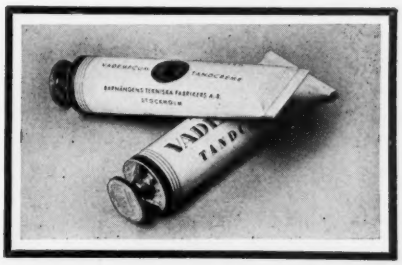
Soda straw and tooth pick wrapping machines

Weighing machines for coffee, sugar, cereals, etc.

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Special machines developed and built on contract

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Tubes from the new Arenco Type GAB Tube Filling and Closing Machine. Automatic turning of the tubes to register print with the closure, and automatic cap tightening. Speed forty to forty-five tubes per minute, with or without clip. Clean filling without spattering of the inside closure wall.

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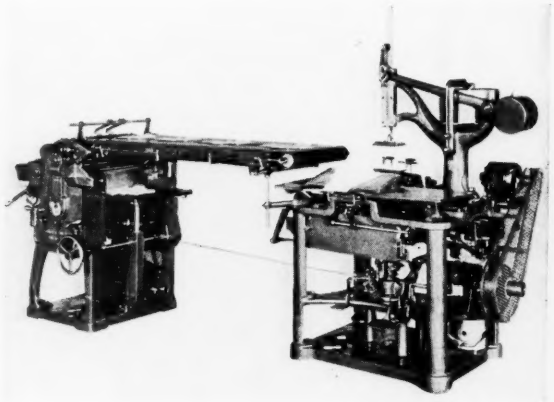
Group of tight wrapped packages for food and household products

wrapped with a metal foil wrap. In this case the labels are made of metal foil laminated on paper so that the outside of the label is the printed metal foil and the inside is paper which can be glued uniformly to the carton. The foil wrapped package is very attractive as the printing and colors are bright and glistening and the metal foil makes one of the tightest and most protective packages obtainable. Laboratory tests have shown that this style of package is one of the best for protection against moisture, grease, light, etc.

Another recent development combines the advantages of tight wrapping and wax wrapping at considerably lower cost. This is accomplished by printing and waxing only one side of the sheet of paper, and gluing the underside to all four sides and top and bottom of the plain carton. This development has been made possible through the perfection of electric eye methods of registration which permits roll feeding of the printed and waxed stock. Roll feed and electric eye registration can also be applied to regular unwaxed tight wrappers, and this is an advantage because under certain conditions roll printing is less expensive than printing in sheets.

Various kinds of adhesives can be used to suit the requirements. For the ordinary paper tight wrapped packages a cold vegetable dextrine adhesive soluble in water is used. For varnished and foil wraps there are several kinds of moisture-proof adhesives and also Latex adhesives on the market. Some of these can be used cold and others require heat or a special solvent for running in the gluing unit which is integral with the tight wrapping machines.

The machines for tight wrapping packages are built in different styles and types to suit the conditions. There is a semi-automatic machine which is hand fed and adjustable for different sizes and has a production of 10 to 15 tight wrapped packages per minute. Then there is the fully automatic machine usually built for one size



Semi-automatic adjustable tight wrapping unit

THE LIQUID CARBONIC CORPORATION

Manufacturers of

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Automatic Labeling Machines

National
Semi-Automatic Labeling Machines

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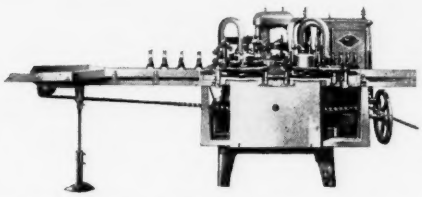
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WINNIPEG, MANITOBA, CANADA

THE COMPANY

The Liquid Carbonic Corporation was founded in 1888 as the pioneer manufacturer of carbonic gas in cylinders. As the market for this product grew and new uses were developed, the manufacturing facilities of The Liquid were increased to supply equipment to care for the demand. Today, Liquid labeling equipment is the standard of the industry. Installations in hundreds of plants prove the quality and efficiency of Liquid O. & J. and National Labelers.

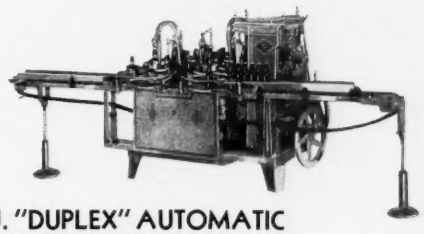
PRODUCTS



O. & J. "SINGLE" AUTOMATIC ROTARY LABELER

The "Single" O. & J. Labeler is a rotary type machine and is completely automatic. It has a capacity of 80 containers per minute or 3,200 dozen containers per 8-hour day.

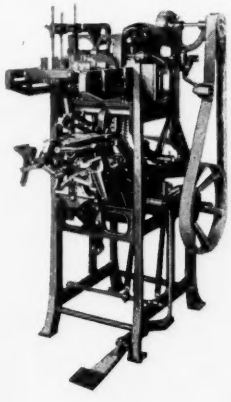
There are eight heads and top grips for receiving and holding the bottles. By reason of these eight heads the machine operates at a comparatively slow speed.



O. & J. "DUPLEX" AUTOMATIC ROTARY LABELER

The Duplex Labeler is a large capacity rotary type machine, completely automatic. It will handle 120 containers per minute or 4,800 dozen containers per 8-hour day.

The operation of this machine is similar to that of the "Single" machine described at the left, the extra capacity being obtained by having ten heads, instead of eight on the turntable, and two points at which labels are affixed to the containers.



NATIONAL "STANDARD" LABELER

This is a hand fed or semi-automatic labeling machine. With it practically any size of bottle may be labeled with either body or neck labels or both.

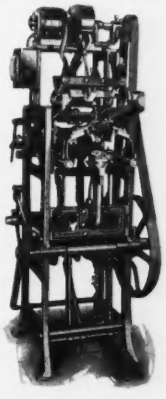
When equipped with a foiling attachment, foil may also be applied.

This machine has a capacity of 40 containers per minute or 1,600 dozen containers per 8-hour day.

NATIONAL "MIDGET" LABELER

This machine is a smaller and simpler model of the "Standard" labeler shown on this page. It will affix a single label on anything from a 1/2-oz. vial up to a quart bottle, provided the labels do not go more than half way around the bottle.

This machine has a capacity of 40 containers per minute or 1,600 dozen containers per 8-hour day.



SERVICE RENDERED BY REPRESENTATIVES

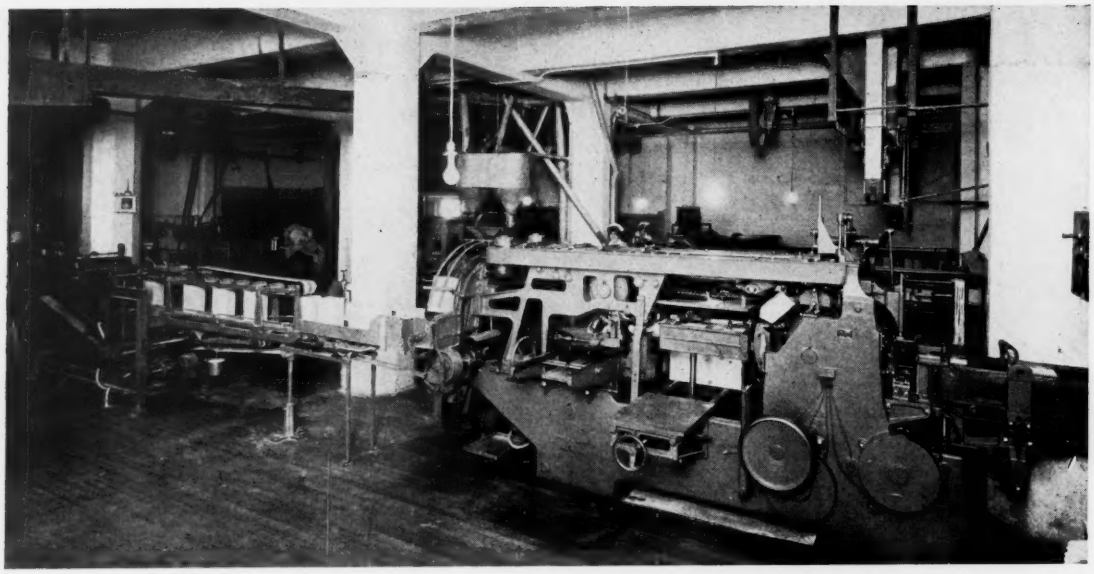
The labeling machine division of the "Liquid" can help you increase the efficiency of your labeling operations—by speeding up production—by more accurate labeling (especially on difficult labeling jobs) by economizing through fewer machines and less manpower.

One of our qualified labeling machine representatives will be glad to call and discuss your labeling problem. He has facts and figures on comparative labeling costs, savings in time, money and labor on various labeling operations.



Write for Catalog

We will be glad to send you, on receipt of a request on your letterhead, a copy of our booklet, "Labeling Machines." It contains a vast amount of valuable information on labeling equipment.



Tight wrapping installation at a western milling plant. Photo courtesy of Stokes & Smith Company

package to be wrapped and has a production of 60 to 70 tight wrapped packages per minute.

With the tight wrapped package the plain unprinted cartons are filled and sealed in the regular way, there being a number of different makes of semi-automatic and full automatic carton filling and sealing machines on the market. After the carton is filled and sealed it is fed into the tight wrapping machine which automatically feeds the paper label as the carton enters the wrapping machine, glues the label all over on the blank side with a thin coating of adhesive and wraps it tightly around the filled carton, making a perfectly tight-sealed, non-sifting, weevil-proof and attractive package. This package costs practically the same as, or possibly a little more than, the printed cartons, but there are so many advantages in the tight wrapped package which more than offset any slight additional cost. Some of these advantages are:

Better appearance of the package, stimulating sales. Printed or lithographed colors show up to better advantage on paper labels than when printed on cardboard.

Greater strength. The wrapper glued tightly to the carton strengthens the package, especially at the corners where there is generous overlapping of the paper for extra reinforcement.

Better preservation of contents. The contents of the package are fully protected against dust, odors, weevils, etc., and there is no loss from leakage.

CARTONING MACHINERY

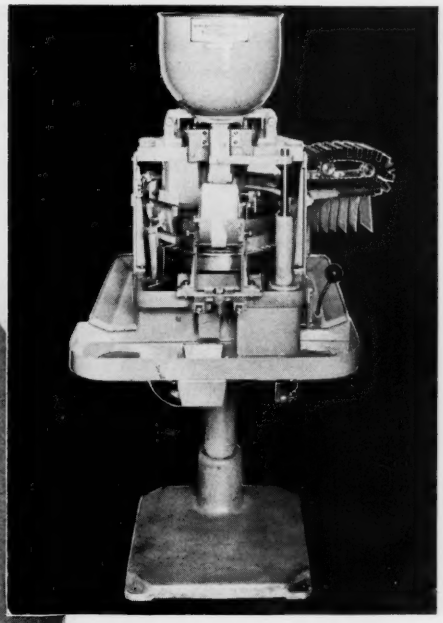
by CHARLES A. BARR

MANUFACTURERS of cartoning machines have been concentrating their talent to develop greater speed and greater efficiency for several years. This concentration of attention has produced the smooth-running, highly efficient cartoning machines that all prospective purchasers of this type of equipment have come to take as a matter of course. Speeds of 150 per minute have become rather common, and 200 per minute and even higher in some few cases is an actual fact.

While improvement in speed and efficiency has been the chief objective, this could only be achieved through general refinement in design—a careful and intelligent study of each element and mechanism and motion. As is invariably the case, the incidental improvements are perhaps of greater interest than the principal objective. These incidental improvements—quietness in operation that contributes so materially to employee efficiency, and smoothness that adds years to useful life, greatly reducing upkeep cost—are tremendously important contributions although not quite as spectacular as the progress that has been made in the direction of speed.

It seems now, however, that purchasers of cartoning machines find available machines capable of greater speed than they are able to use and, as a consequence, manufacturers have turned their design attention to the matter of adapting their machines to meet unusual con-





The Famous Brown Packet Filling Machine . . . available on lease or for purchase. Fills forty to sixty packets per minute, depending on quantity and material to be filled.

BROWN Completes the Cycle of Merchandising

A Packeting Service That Makes Sampling ECONOMICAL

Sampling pays big dividends in terms of sales, advertising and goodwill . . . but only when it is economically carried out. This company has, for decades, developed economical sampling methods for numerous manufacturers . . . providing a complete packeting service. We print and manufacture all types of open end envelopes in various sizes. We aid our customers in designing their packets. We lease or sell the famous Brown Filling Machines, to manufacturers whose volume justifies an installation. Or, when the quantity is small or irregular in volume, we fill and ship from our own factory . . . at costs that are surprisingly low.



Send for this Free, interesting booklet.

The above describes our service in general terms. For details, in relation to your own problem, write, wire or phone today.

THE BROWN BAG FILLING MACHINE CO.
FITCHBURG MASSACHUSETTS

ditions—to produce the out-of-the-ordinary packages or to operate under out-of-the-ordinary conditions.

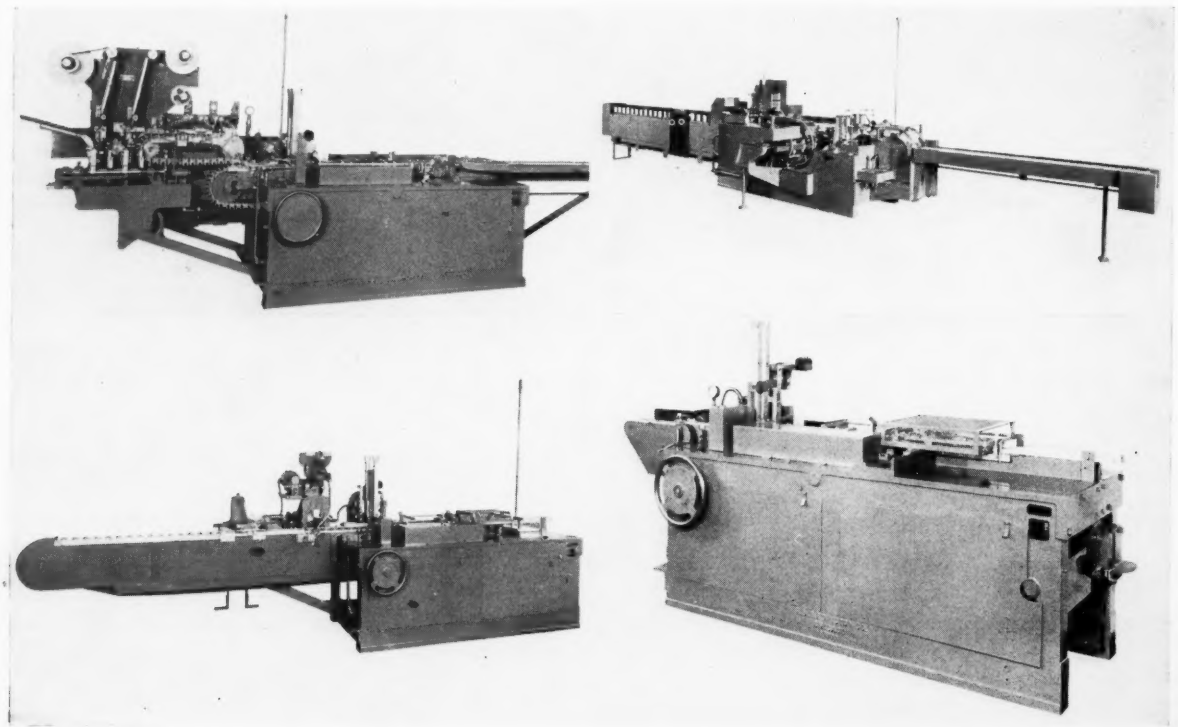
As a striking illustration of what can be done with the general type of cartoning machine, the following descriptions of the operations performed by the machines shown will be of interest. All four machines are of the same general or standard type, practically the only difference being in the size of machine and number of operations performed.

Spark Plugs. The latest type of high-speed cartoning machine. A carton is fed from its magazine and formed; piece of chipboard is cut from a roll, made up and placed over threaded end of plug to protect it from damage; a copper gasket is fed from a hopper and placed in intake conveyor pocket with plug; description of plug is printed on each of the two end flaps of carton; plug and gasket are inserted into carton and carton closed by tucking in the end flaps; if gasket mechanism fails to function, machine stops automatically; no carton is fed from magazine when an intake pocket approaches filling position without plug. Speed, 130 per minute.

Special care must be taken to guard against any damage to the spark plugs, and gaskets must be placed in the carton in such a way that no damaging of size wire or center wire of plug or damage to gasket will result.

V620 Kodak Film. The new type high speed photographic film requires careful protection from moisture. One of the latest type high speed cartoning machines is arranged with means for automatically wrapping each film roll in a wrapping material that is highly resistant to moisture penetration.

An unwrapped film roll is fed from a chute; a wrapper is cut from a roll of dry waxed paper; a wrapper is cut from a roll of foil mounted on self-sealing waxed paper; film roll is wrapped with the dry waxed paper on the inside, and with the foil surface of the outer wrapper on the outside; outer wrapper is closed by bringing the waxed paper surfaces at the edges of the wrapper together and extending away from the roll of film, and heat-sealed in this position; longitudinal seam of wrapper thus formed is folded down and ends of wrapper that extend beyond the ends of the film roll are sealed and folded down in like manner; carton is fed from its magazine; date before which film should be used is printed on carton with printer's ink and embossed on carton; wrapped film is inserted and carton is closed by gluing the outer end flaps; no carton is fed from magazine if no roll is in position. Speed, 120 per minute.



Cartoning machines used for packaging the following products: Upper left, V620 Kodak film; upper right, Pond's cleansing tissue; lower left, A. C. spark plugs; lower right, Oralgene chewing gum. Courtesy, F. B. Redington Company

Sample (2-stick) package of *Oralgene Chewing Gum.* Latest type high speed cartoner. A carton is fed from magazine and formed; two sticks of gum are taken from intake belt and inserted into carton; carton is closed by tucking the end flaps; no carton is fed when there is no gum in position. Speed, 175 per minute.

Pond's Cleansing Tissues. This latest type cartoner was built for an unusually large carton containing 500-count stack of tissues. A circular is fed from magazine, folded and placed one on top of each stack of cleansing

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SPECIAL AUTOMATIC PACKAGING MACHINERY

AND OUR ORGANIZATION

—NOT TOO LARGE—NOT TOO SMALL

We are just the right size to give to your problem intent and undivided attention. Not so large as to be "regimented"—Not so small as to lack efficient operation. . . . One of the packages conceived by our organization is shown below—a unique selling sample for merchandising a fine product to millions of people. We designed, built and put in operation in three months time, the special machines required by Wrigley. . . . Among the concerns for whom we have built special machines are General Electric Company, Western Electric Company, Hyatt Roller Bearing Company and Westinghouse Lamp Co. . . . We understand merchandising problems, have had long training in all sorts of packaging technique, have fine equipment and a skilled organization of trained mechanics.

Your packaging problem, placed before our organization, is in competent hands.

The Ivers-Lee Company

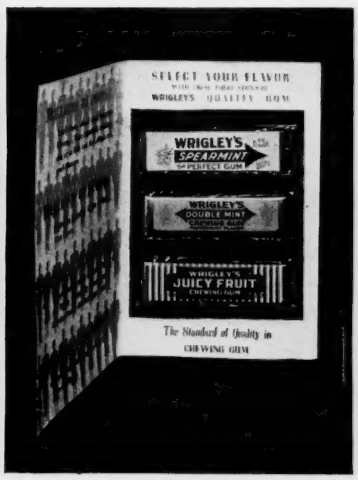
215 CENTRAL AVENUE NEWARK, NEW JERSEY

PRODUCERS OF SPECIAL, AUTOMATIC, PACKAGING MACHINES SINCE 1919

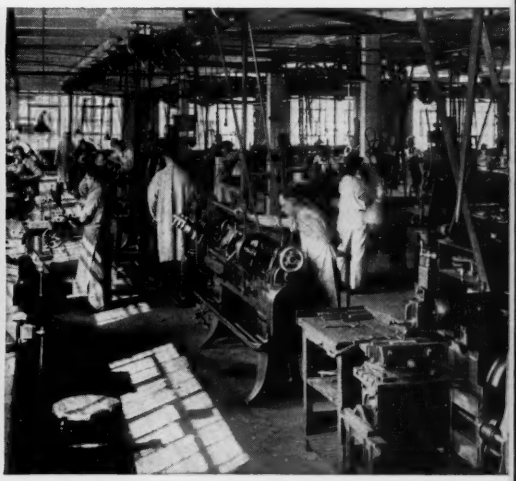
Creators of the Sanitape and Sealtite Machines, Universal Tablet Counting and Filling Machine, Cellophane Gum Wrapping Machine, Universal Bag Forming Machine, Cellophane Heat Crimpers, Trimmers and Sheeters.



DRAFTING ROOM



CUSTOMER'S PRODUCT



MACHINE SHOP

tissues in intake conveyor pockets; carton is fed from magazine and formed; a stack of tissues is inserted with circular, and carton is closed by double-gluing the end flaps; no carton is fed from magazine when the corresponding pocket is empty. Speed, 60 per minute.

The following are descriptions of the cartoning methods used in the packaging of some of the products shown in the accompanying illustration.

"Beechies." Candy coated chewing gum tablets dumped in a hopper are automatically fed and counted out in groups of twelve. Transparent cellulose window cartons are fed from a magazine, opened up, twelve tablets inserted and carton closed by tucking end flaps.

"Pro-phy-lac-tic" Tooth Brushes. The unusual feature of this package is the provision made for showing the brush itself through the carton.

Rockwood Baking Chocolate. The machine automatically wraps each half-pound cake of chocolate in dry waxed wrapper, cut from a roll, and then automatically cartons it in the characteristic bevel-edge carton.

"Red Cross" Gauze Bandages. Machines are unique in that they are adjustable to handle in some case three packages and in other cases as many as five packages. Adjustments are so standardized and plainly marked that to change from handling one size to another size requires five to ten minutes.

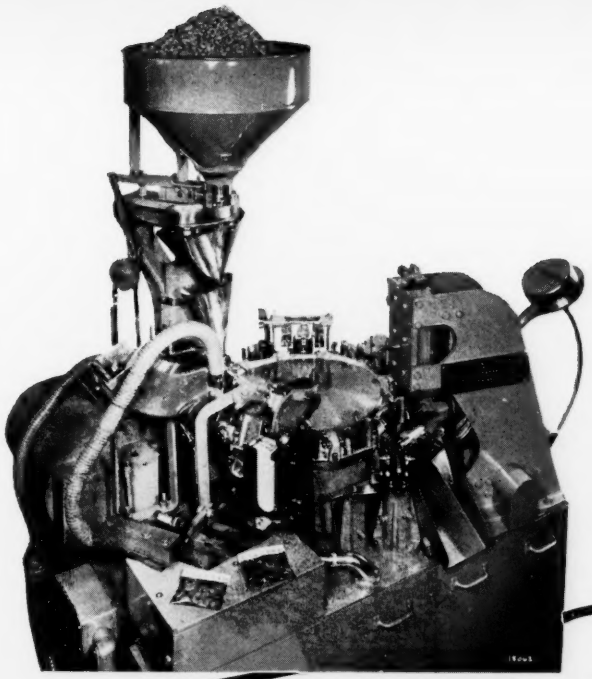
"Mum." One of the latest type, highest speed, machines, feeds the tins, automatically, holds a circular and inserts tins and circulars into tuck cartons. Speed, 150 packages per minute.

V620 Kodak Film. The new type high speed photographic film requires careful protection from moisture. One of the latest type high speed cartoning machines is being arranged with means for automatically wrapping each film roll in a wrapping material that is highly resistant to moisture penetration, sealing this wrapper and inserting film rolls so wrapped and sealed into the cartons. Means are also provided on cartoning machine to automatically print date on the carton.

La Rosa Macaroni Products. The cartoning machine used is arranged with a long intake conveyor consisting of a series of metal pockets. Each pocket is lined with a dry wax paper wrapper automatically cut from a roll by the machine. Along this conveyor, operators weigh out the proper amount of product and place the proper amount in each pocket of the conveyor that has been lined with the dry wax paper wrapping material. As this conveyor carrying the material progresses forward, the contents of each pocket are wrapped, and then cartons are fed from a magazine, the wrapped contents of each pocket inserted into the cartons and the cartons closed by securely gluing both end flaps.



Cartoning methods used in the assembly of some of these packages are described in the accompanying text



The Frank Supreme *Fully Automatic** Bag Filler for transparent cellulose. Attaches tab to bag, heat seals and closes with eyelets.

*Automatic from start to finish. Feeds tabs and bags, opens bag, fills same, folds, heat seals, eyelets and delivers at a rate of *3000 per hour!* Adjustable weights. Ideal for 5¢ packages.

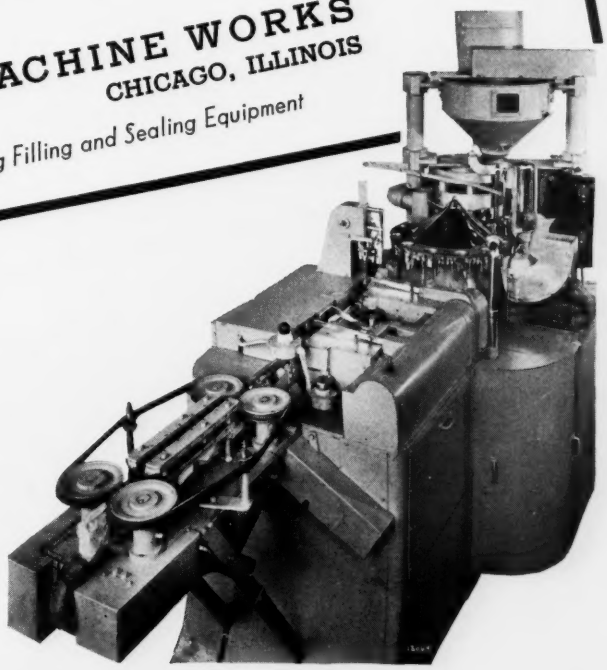
Frank Packaging Machines AUTOMATICALLY Deliver EXTRA PRODUCTION, EXTRA PROFITS!

We are builders of a large and varied line of fully automatic and semi-automatic bag opening and bag filling machines. We also manufacture the inexpensive and efficient Magic Manual Bag Opener and Filler, ideal for candies, nuts and similar products.

Because of the breadth of our line, most requirements, including many of the most unusual—can be filled from standardized machines and hence at the lowest cost. Specialized adaptations can be worked out to meet particular problems. Consult with our engineers, without obligation. Write, wire or phone—

JULIUS FRANK MACHINE WORKS
1302 LARRABEE STREET **CHICAGO, ILLINOIS**

Manufacturers of All Types of Bag Filling and Sealing Equipment



Frank Powder and Pudding Bag Filler and Sealer for wax and glassine bags

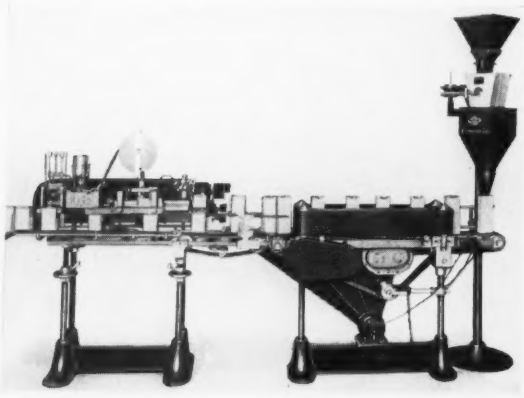
FULLY AUTOMATIC

Machine picks bag from bag box, opens, forms square bottom, fills, folds bellows type bag at top, double folds bag, glues and heat seals. Delivers 2700 bags per hour. Adjustable weights.

BAG PACKAGING

Automatic Equipment for the efficient closing of stiff containers, which have been available for many years, made it almost imperative for the large producer of packaged goods to seek some form of stiff container, either can or carton, for volume packaging. Although the cost of these containers was considerably higher than paper bags, the saving in production cost more than equalized the packaging overhead, and in most cases the bag remained the unit for only the small producer.

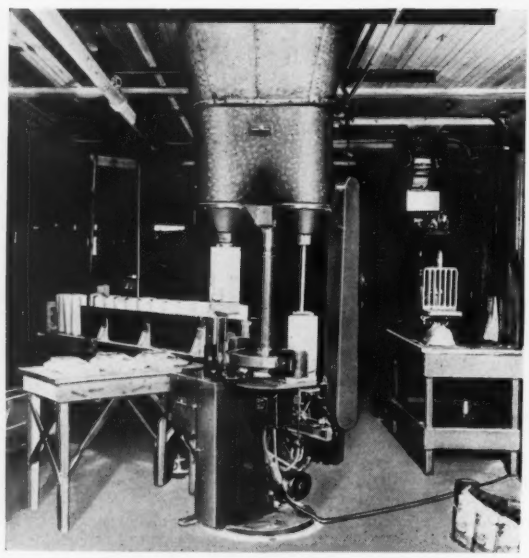
However, the increased demand for merchandising economies, and an attractive but less expensive container, drew many a production manager's attention to the multicolor lined paper bag. It was at this time that automatic bag closing machines made their appearance, and thus provided for the first time a machine that would, when operated in conjunction with an automatic net weigher, pack, fold, and seal with a strip of gum tape, bags ranging in weight from $\frac{1}{2}$ lb. to $1\frac{1}{2}$ lb.



Allison bag closer for automatically packing folding (with triple fold) and sealing with tape either lined or single paper bags. Courtesy, B. F. Gump Company



Fully automatic sealer in operation, sealing one-pound coffee bags. Note straight line production flow from filling to final sealing operation. Courtesy, Consolidated Packaging Machinery Corp.



Automatic packing and weighing machine for flour and similar products. Speed, up to 30 packages per minute with only one operator required. Courtesy, J. L. Ferguson Company

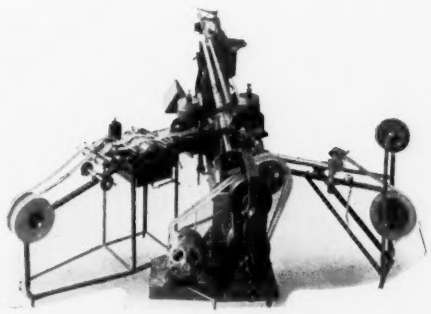
The steps in packaging are as follows:

The exact weight drops from the automatic net weigher into the bag, which is held in place by one operator, who then places the bag on a traveling belt that passes between two vertical belts into the packer, where the material is firmly packed to assure a solid package, and then delivers the bag into the folding and sealing unit proper. Here the bag is tucked, a triple fold applied to the top of the bag and, as this fold is pressed firmly in place, paper tape is cut, moistened and pressed firmly on the top and down the two sides. The seal obtained is practically air-tight, and is the strongest part of the finished package. The dust-proof seal effected is square at the top, and thus permits easy and convenient packing into shipping containers. Standard bags as produced by bag manufacturing companies can be used, and the uniformity with which the bags are automatically packed, folded and sealed assures a continuous pro-

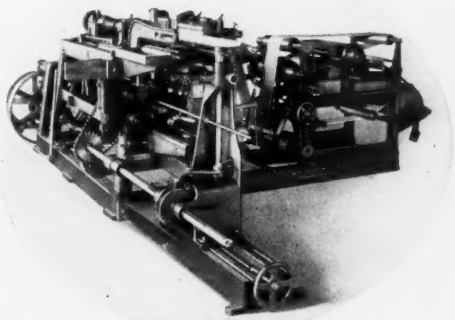


Better Looking . . . Better Lasting . . . Better Selling Packages are born on these KNOWLTON FIBER can machines

KNOWLTON Equipment helps solve the vital problem of building up sales (through Package Design) in an easy and economical way. The new modern KNOWLTON AUTOMATIC FIBER CAN MACHINES are acclaimed by manufacturers and packers alike, as possessing many special advantages. The KNOWLTON AUTOMATIC CONVOLUTE WINDING MACHINE accepts paper stock from the roll, automatically produces fiber can bodies, with attractive lithograph labels applied, in round, rectangular or irregular shapes. The KNOWLTON SPIRAL TUBE WINDING MACHINE is the fastest and most economical operating machine for winding tubes, cores or can bodies from 2 to 19 ply. Unexcelled for tube strength, accuracy and quality in the manufacturing of food containers, fiber can bodies, cosmetic boxes, tissue cores, heavy mill cores, mailing tubes, dry battery cores, spools, waterproof canisters, etc. Write or call our nearest office.



Spiral Tube and Can Winder



Automatic Convolute Winding Machine

M. D. KNOWLTON COMPANY

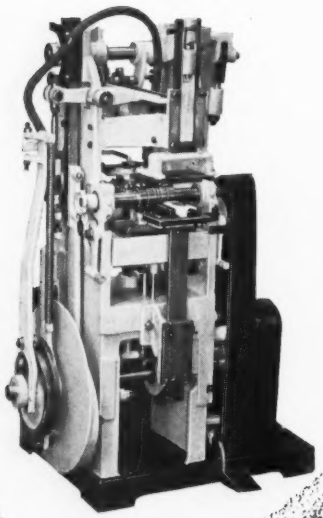
ROCHESTER, N. Y., U. S. A.

203 WOOSTER ST., NEW YORK

127 SOUTH PEORIA ST., CHICAGO



BOTTLES FLASKS AMPULES JARS FLACONS VIALS BOXES CANNISTERS *for makers of* BEVER



VTM CORP.

Labeling—

1 MINIMUM TIME FOR CHANGING PARTS
2 ELIMINATION OF GLUE SEEPAGE
3 LOWEST COST CHANGE PARTS
4 VARIABLE SPEED CONTROL
5 BLISTER-FREE LABELS
6 NO GLUE SEEPAGE
7 ALL-OVER GLUING
8 PERFECT REGISTER
9 ADAPTABILITY

do it on

● *find out what can be done to improve YOUR labeling jobs send a sample—and write to . .*

NEV
500 W

XUM



BEVERAGES LIQUORS FOODS PRESERVES DRUGS TOILETRIES TOOLS GLASSWARE UTENSILS ETC.

reduced to a Science in 1937!

—and it means ANY labeling job using paper or foil, plain or embossed, on flat, curved or recessed surfaces . . . . . .

Every executive who has seen the Pony Labelrite in action—and there have been many of them—has been enthusiastic over its ability to overcome the handicaps of past methods. The nine features listed on the opposite page clearly indicate how thoroughly the New Jersey engineers appreciated what was lacking in labeling for quality and quantity production.

For manufacturers of cosmetics, toilet preparations, drugs and medicines, beverages, liquors, foods, preserves, inks, fountain pens, tools, utensils, glassware, boxed products or spooled articles, samples, etc., the Pony Labelrite will earn a favored reputation as both a timesaver and laborsaver. Change parts are "petty cash" items; its initial cost, low.

THE PONY LABELRITE IS WITHOUT DOUBT THE OUTSTANDING MECHANICAL ACHIEVEMENT FOR *TROUBLE-FREE* PRODUCTION . . . .

on the "PONY LABELRITE"—

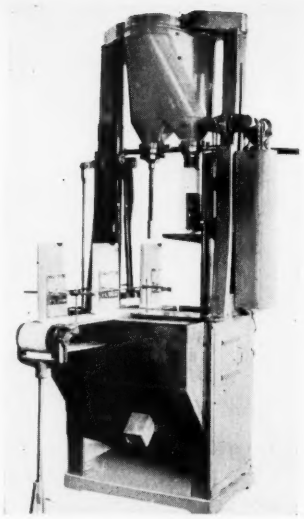
NEW JERSEY MACHINE CORPORATION

500 Willow Avenue, HOBOKEN, N. J. ***Chicago Office*—549 W. Washington Blvd.**

duction of packages, pleasing to the eye, highly practical and, at the same time, conveying an air of stability formerly associated only with containers other than bags. With one operator to feed the bags to the weigher and another to place the filled bags in the shipping containers, two operators can easily and continuously turn out up to thirty packages per minute.

Less than $^1/_2$ hp. is required for operating the entire bag packaging unit. Flexibility of operation is another valuable feature, and permits the closing of bags ranging in weight from 8-oz. up to $2^1/_2$ lbs. The machine is so constructed that the adjustment from one size bag to another can be made in only a few minutes' time. The space needed is approximately 12 ft. long by 20 in. wide.

The foregoing describes the method followed in the sealing of the bags with gummed paper tape. For applying other types of closures the procedure differs, although essentially the steps up to that point are the same.



Duplex packer and weigher with automatic conveyor to carry the bags away. In sealing, the top of the bag is folded over and glued. Courtesy, Stokes & Smith Company

CHECK-WEIGHING SCALES

THERE are two rather distinct types of weighing used in packaging operations: (1) the weighing operation performed by the automatic filling or packaging device, and (2) the check-weighing of individual packages for variations from standard.

As the modern automatic packaging devices include many features not directly associated with weighing, they are discussed under another heading. Filling devices are, of course, essentially scales with automatic features added. The application of the electric-eye to modern gravity-type scales has brought new standards of accuracy to this type of equipment. The inaccuracy caused by the use of any mechanically operated switch in cutting off the flow of material is eliminated by the electric-eye. This electric-eye is absolutely frictionless as the cut-off is operated by the interception by the indicator hand of a beam of light falling on a photo-electric cell device.

Another problem affecting accuracy was the dribble of material after the cut-off had been effected. Now a vibrator conveyor (for dry materials) feeds the materials at a uniform rate, minimizing material in suspense when the cut-off is made. For liquids, two solenoid electrically operated valves are used. The electric-eye cuts off first the larger valve, then allows the liquid to flow through the smaller valve until the correct amount is reached. The instant cut-off and small flow provide a high degree of accuracy.

All automatic packaging and filling devices require a check-weighing operation as a means of adjusting the packaging device to the correct quantity, and as a routine check-up on the uniformity of the packages.

Check-weighing scales are usually of the so-called "over-and-under" type, i.e., designed for a zero reading. The scale is counter-balanced for the predetermined load, either through the use of individual weights (in the smaller bench-type scales), or through the setting of blank beams to offset test weights placed on the platform (in the larger scales).

Since the scale is already counter-balanced for the predetermined amount of the load, quick reading is pos-



Type of scale widely used for check-weighing small packages (8 oz. to 4 lbs.) because of compactness and sensitiveness. Not, however, of conventional over-under type

HORIX MANUFACTURING CO.

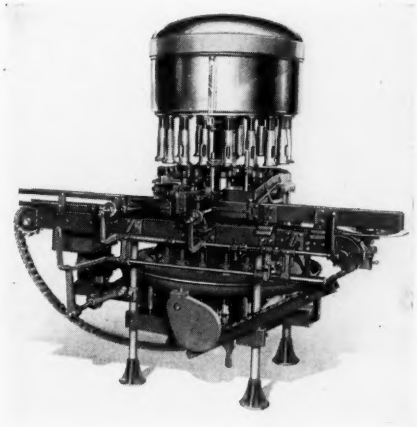
CORLISS STATION, PITTSBURGH, PA.

Manufacturers of HORIX-HALLER Automatic Filling and Conveying Equipment

PRODUCTS HANDLED

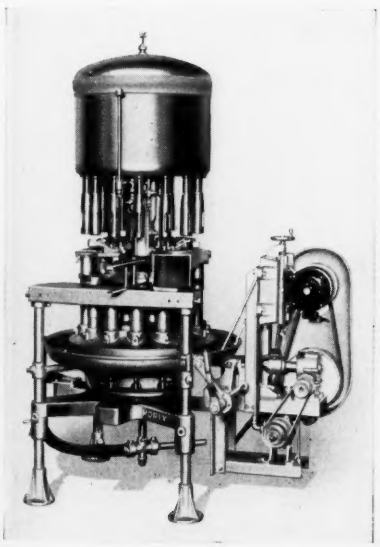
Whiskey	Catsup	Fruit Juices
Wine	Bluing	Chili Sauce
Liquors	Vinegar	Medicines
Gin	Syrups	Extracts
Waters	Brine	Tomato Pulp

AUTOMATIC ROTARY FILLERS



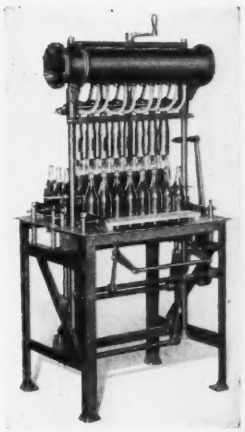
Suitable for plants requiring maximum continuous speed with minimum labor. Feed, filling and discharge are completely automatic. Bottle Fillers handle all containers of round, hexagonal, octagonal or other symetrical shape, and many panel bottles or flasks, at speeds up to 200 a minute. Can Fillers are built to suit special requirements, filling soups, fruit juices, etc., and saucing beans, spaghetti, etc., at speeds up to 150 a minute.

SEMI-AUTOMATIC ROTARY FILLERS



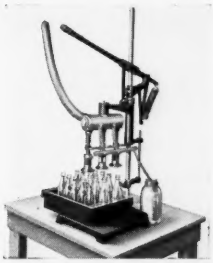
Empty bottles are fed by hand; filling and discharge is automatic. Can be built to handle all sizes and shapes of bottles from 2 oz. to 1 gal. at speeds up to 60 a minute. Quickly adjusted to different size bottles. Fills uniformly, without drip or waste. Easily disassembled for cleaning or adjusting. Sturdily constructed to insure dependability and long life. Can be operated by unskilled labor.

MODEL NV STRAIGHT-LINE FILLER



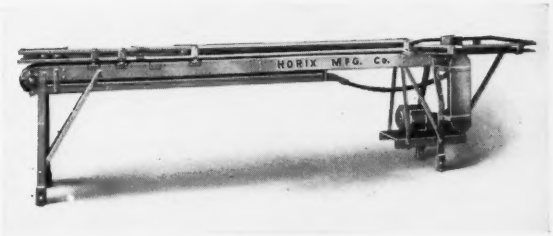
Ideal for filling small lots of different products into a variety of containers. Handles any shape or size of bottle from 4 oz. to 1 gal. Change from one size container to another is quickly and easily made. Empty bottles are fed by hand. Fills 3 to 12 bottles at a time, depending on their size. Whiskey can be filled at rate of 45 a minute. Filled bottles can be discharged onto a moving conveyor. Does not require expert mechanics for satisfactory operation. Exclusive Gravity-Vacuum System prevents loss due to defective bottles. No drip or overflow. All parts readily accessible for cleaning. Corrosion-resisting contact parts can be supplied.

MODEL M BENCH FILLER

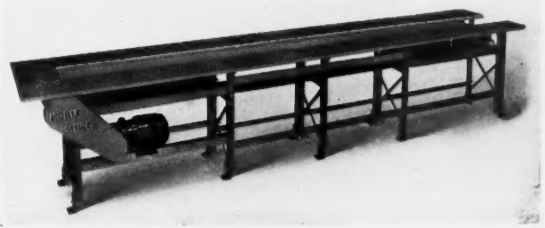


A simple, efficient machine that will quickly save its moderate cost by doing away with loss of product. By use of special feed trays, various size containers can be handled, at speeds of 10 to 20 a minute, depending on product and size of container. Fills cans and jugs, as well as bottles, from miniatures to 4¾ in. diameter bottles. Ruggedly built, will last a lifetime. No drip or waste of product.

CONVEYORS AND WORK TABLES



Conveyors, which speed up production and do away with manual handling of containers, and Work Tables (see below) for increasing the efficiency of capping, corking, labelling and inspecting operations, can be supplied to order to suit all requirements.





Weighing and filling unit equipped with vibrator feeder and photo-electric cell cut-off. Courtesy, Toledo Scale Company

sible, as the indicator travels only an inch or so on each side of zero. The single zero indication also simplifies reading for the operator.

Modern check-weighing scales are unusually sensitive; and one of the 30-pound sizes is sensitive even to $^1/_{1000}$ pound. Scales of this type are available in a range of sizes from those capable of check-weighing packages of an ounce or less, up to 250 pounds or more.

Where a very compact scale is required small fan-type scales are frequently used. These scales are likely to have charts of either $^1/_2$ pound, or 1 pound capacity.

Quite often the check-weighing is done in a dusty location where quantities of finely pulverized material might collect on the scale. In these instances, especially designed scales are available (equipped with grid platforms, weight covers, etc.) to protect the accuracy of the scale during operation.

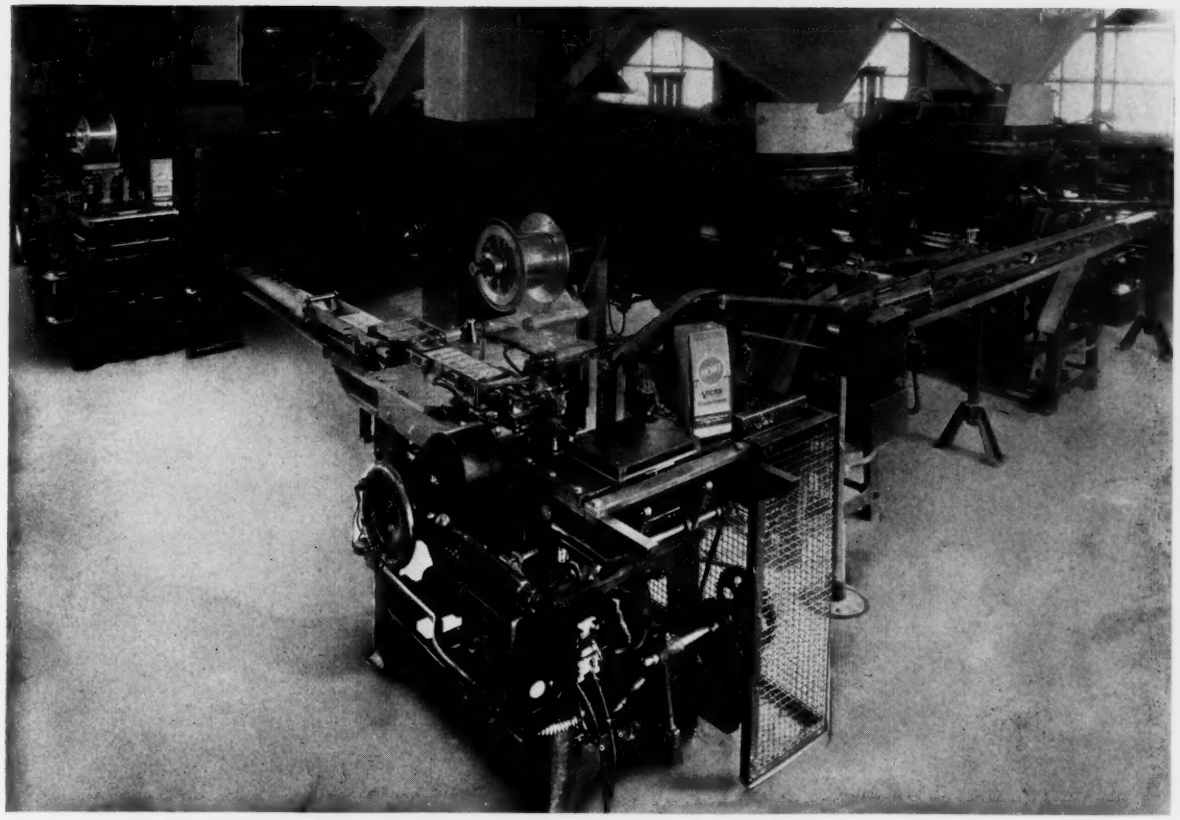
In some filling operations, no automatic filling device is provided, but the bags or containers are filled to something less than capacity, and then placed on the "over-and-under" scale. Material is then sifted into the container until the weight is brought up to the predetermined amount.

For handling coarser materials in bags, a special bagging scale is provided. The bag is held in position on the scale by a special clamp, and the flow of material into the bag is indicated on the scale dial. The cut-off is made by a hand-operated valve. This scale is, of course, of the dial type, and the weight indicated on the dial serves as an automatic check-weight for the bag.

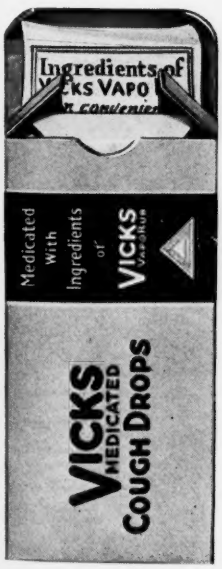
Modern equipment for quick, accurate check-weighing is absolutely essential both to prevent losses either through overweight or through ill will, and the legal consequences resulting from short weight.



Check-weighing operations at plant of a western biscuit company. Courtesy, The Exact Weight Scale Company



A PLANNED INSTALLATION for a MERCHANDISING PLAN



Standard Size with Circular Insert

FROM this installation go millions of Vick's Sample Packages to the man in the street and the woman in the home to pave the way for the carloads of Vick's Cough Drops in Standard Packages that have "crashed" the American and Foreign markets.

These standard packages containing circular inserts are produced on Type C-10 Machines synchronized 2 to 1 with Type W-5 Wrapping Machine. All sample packages are produced on Type C-W Combination Packaging-Wrapping Machine.

50 Additional Models Available

Full automatic Bag and Envelope Filling Machines.

Combination Packaging and Wrapping Machines on one base.

High Speed Wrapping Machines for regular and irregular packages in wax paper, glassine or Cellophane.

Carton Forming-Lining Machines combined with counting or volumetric measuring or weighing and filling.

Coupon Folding and Inserting combined with loading or filling by volume or weight.

Sampling machines for various products.

Special machines built to specifications.

Your Inquiries Solicited by Mail or Wire.



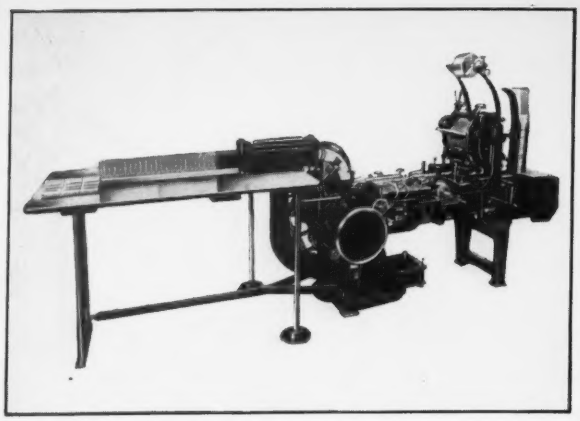
Sample Size Lined, Filled and Wrapped on one C-W Machine

CARTONING MACHINERY CORPORATION

NEWPORT, RHODE ISLAND

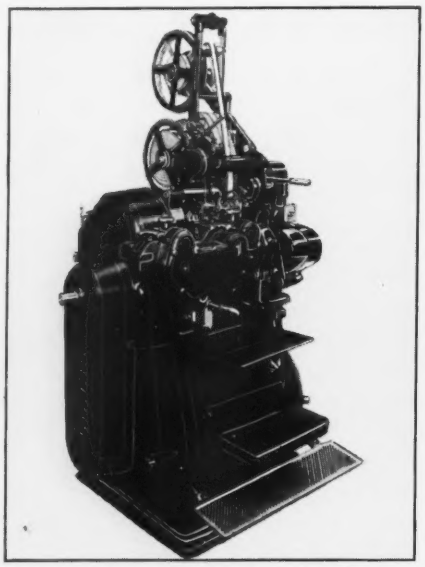
Designers and Builders of Standard and Special Packaging Machinery

Home Office and Plant, Newport, R. I. New York Office, 90 West St



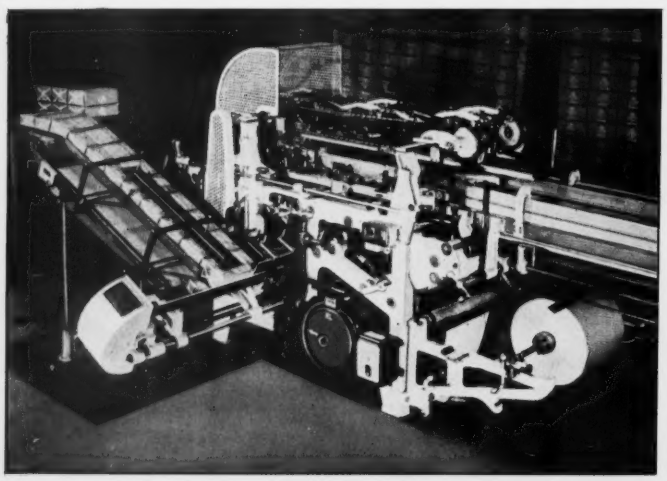
ROSE WRAPPING MACHINE • MODEL LG

High Speed Wrapping Machine for big production. Built in four different models. RANGE OF SIZE—Length, ½ in. to 9 in.; width, 1 in. to 9 in.; height, ¼ in. to 3½ in. Speed from 80 to 250 packages per minute.



ROSE FORMING AND WRAPPING MACHINE • MODEL 750

For plastic and hard candies, and chewing gum in different shapes. Built in six different models. PRODUCTION — 500 to 850 twist wrapped pieces per minute • 400 to 500 fold wrapped pieces per minute • 450 to 650 fold or twist wrapped pieces per minute.



STANDARD CARTON WRAPPING MACHINE • MODEL 3-84

WRAP

SINCE the pioneering days of wrapping machinery, the trademark AMF has symbolized the utmost in automatic equipment for wrapping and sealing a variety of products.

The present day demand for AMF Wrapping Machines is due to their combined merits of high speed production, constant efficiency, economical wrapping costs and unusual adaptability to many wrapping requirements.

Many diversified products, varied in character, size and shape, are being wrapped on AMF WRAPPING MACHINES. For wrapping your products attractively and economically we suggest your inquiries for an AMF Wrapping Machine designed to meet your needs.

AMERICAN MACHINE & FOUNDRY CO.

NEW YORK, N. Y.

RANGE OF CARTON SIZES

Dimensions in Inches	WIDTH	HEIGHT	LENGTH
Minimum	1⅞	1⅞	6
Maximum	7	7	16
Production	35 to 45 Per Minute depending on size.		


PPING
CROWN PILOT
ONE POUND
WONDER BREAD
SLICED
IT'S SLO-BAKED
WONDER
10¢
YANKEE GIRL
SCRAP
10¢
TARGET
CIGARETTE
TOBACCO
10¢
Bond Bakers
CRACKED WHEAT
Bond Bakers
WARD'S
HOMELIKE
RAISIN 5¢
COOKIES
Old Gold
CIGARETTES
KOOL
Cigarettes
RIPPLE
A WELL-BALANCED
CIGARETTE
BLEND
FOR SMOKERS WHO PREFER TO ROLL THEIR OWN
5¢
Old Gold
CIGARETTES
ADMIRATION
GEMS
S. FERNANDEZ & CO.
SMITH BROTHERS
BLACK
COUGH
DROPS
LUDEN'S
Menthal
COUGH DROPS
WARD'S
HOMELIKE
RAISIN
COOKIES

COLLAPSIBLE TUBE FILLING

THE INCREASING use of collapsible tubes is due in no small way to the ease of operation and flexibility, as to changes in size, of the modern tube filling equipment. A complete outfit for filling, closing and clipping collapsible tubes may be purchased for as little as $130 and this will perform these operations at 15 to 20 tubes per minute. The small user of collapsible tubes is thus almost as efficient, right from the start, as the larger user. A complete range of equipment of various sizes is available without the necessity of building any special equipment. For less than a thousand dollars a complete outfit to turn out 35 tubes per minute can be had. As production warrants, this output can be increased to sixty or eighty tubes per minute. A new completely automatic filling, closing and clipping machine operates at speeds up to 140 tubes per minute with one operator and is designed to feed directly into automatic machines.

For the manufacturer who has a varied line of products, completely automatic tube filling, closing and sealing machines are available which will fill, close and seal up to fifty tubes per minute with one operator. These machines are readily changed over from one type of product to another, or one size of tube to another, and because of their rugged construction, the maintenance costs are practically eliminated.

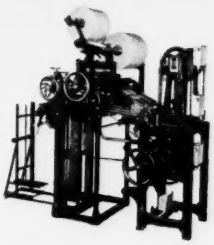
The selection of tube filling equipment depends on three important factors: first, the consistency of the material at the time of filling; second, the range of sizes of tubes; third, the daily production anticipated.

If possible, materials such as cold creams, ointments, etc., should be filled in a warm fluid condition, as much simpler filling units can be employed. At the same time, it is unwise to fill tubes with any material in a warm state, should the material shrink considerably on cooling. This shrinkage will buckle the wall of the tube, giving it a partially empty appearance, which is undesirable to the consumer.

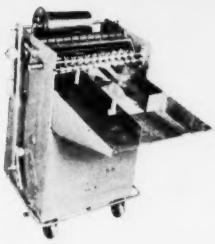
It is also common for users of certain equipment to attempt to overfill a tube in order to give a "fat" appearance and impress the purchaser with the quantity of material he is getting. On such machines this overfilling of tubes is efficiency's greatest enemy as it is necessary to stop frequently and wipe off the jaws of the closing devices. In addition to this, these tubes are more liable to leak after being on the dealers' shelves under unusual climatic conditions. A properly filled tube has sufficient flat on the closed end to allow material to expand without seepage through the closed and clipped ends. An "over-filled" tube will usually have a layer of the material inside the fold of the tube, and if the material is even mildly corrosive, such as a shaving cream, the tube decoration and the clip, if used, will soon be spoiled in appearance. A recent development which permits tubes to be sealed hermetically eliminates this trouble entirely. The hermetic type of closure requires a tube precoated with a special compound by the



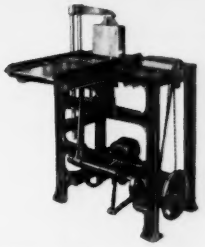
Battery of collapsible tube filling machines. Courtesy of Arthur Colton Company



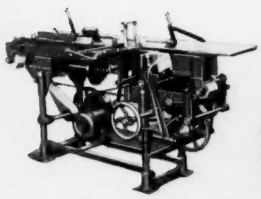
● SENIOR Forming & Lining Machine equipped with Automatic feed.
Production...55 to 60 cartons per min.
Operators...None.



● Cellophane Sheeting and Stacking Machine
Production...2,400 to 57,000 sheets per hr.
Materials . . . "Cellophane," Sylphrap, Foil, Glassine, Waxed Paper, Glazed and Fancy Box Papers, Tissue, Parchment, etc.
Rolls...One to four at the same time.
"Electric Eye"...For cutting printed rolls.
Slitter attachment...Furnished if required.

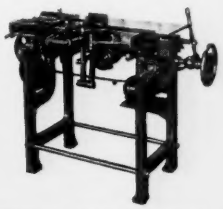


● JUNIOR Forming & Lining Machine
Production...35 to 40 cartons per min.
Operators...One.
Adjustable for wide range of sizes.



● SENIOR Folding & Closing Machine
Production...55 to 60 cartons per min.
Operators...None.

Some of Peters' Customers



● JUNIOR Folding & Closing Machine
Production...35 to 40 cartons per min
Operators...None.
Adjustable for wide range of sizes.

Peters Forming and Closing equipment is the most advanced machinery ever developed for Forming, Lining, Folding and Closing packages. In hundreds of installations, Peters Machines have cut production time, stepped up output and reduced labor costs while providing better, neater and more serviceable packages. Investigate these money savers in relation to your own product. Two economical lines . . . the Senior for plants requiring highest output on an all-automatic basis . . . the Junior for smaller plants or where production is intermittent. Write now to

PETERS MACHINERY COMPANY

4700 RAVENSWOOD AVENUE
CHICAGO, ILLINOIS, U. S. A.

tube manufacturer. When the tube is closed, the strength of the closure and its resistance to seepage are equal to those of the wall of the tube itself. No clip is used and less tube length is required than for other types of clipless closures that are on the market.

However, it is now possible, by means of using certain attachments and special cups, to "fat fill" tubes without the danger of their seeping or leaking, after the seal is applied; thus the sales appeal of these fat-filled tubes is enhanced and it is possible to put the same amount of material in a tube of shorter length. Tubes so filled do not leak not only because of the special attachments used in filling them, but because the seal is a hermetic one.

Two methods of sealing the tubes after filling can be used. These are the use of a double fold, as in the



Filling tooth paste tubes at 150 per minute on full automatic tube filling, closing and sealing machine. Courtesy of F. J. Stokes Company

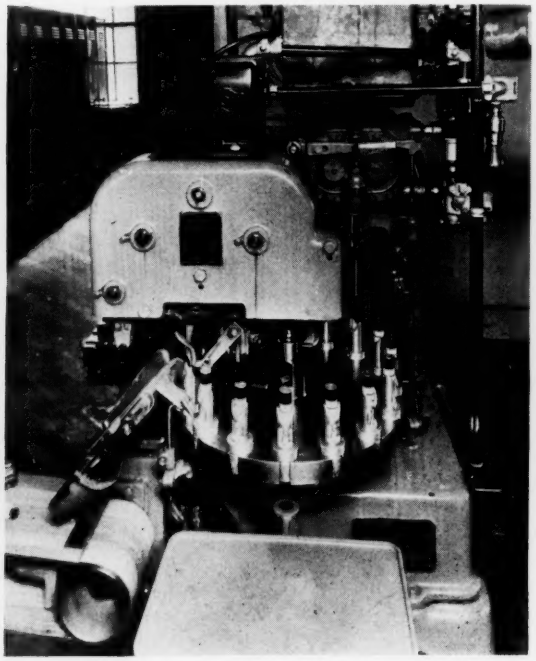
past, or the use of "clipless closures," of which there are several types available. These closures permit the saving of cost of clips, maintenance and, with semi-automatic machines, the expense of an extra operator.

Method of Closing Tubes

The closing of tubes using clips is done as follows: The end of the tube is flattened, a portion of it turned over, and pressed flat. This operation is then repeated, all automatically, of course. For material such as lighter fluid, rubber cement, rubber solvents, etc., containing highly volatile material, it is sometimes advisable to make the first portion turned over wider than usual, with the second fold the regular width. This gives eight thicknesses of material rather than the six thicknesses obtained with the regular fold, and in reality makes the seal about fifty per cent more secure.

After the closing operation, the clipping is performed. This guards the end of the tube and prevents accidental opening of the folded end. Tube clips are cheap and are applied automatically by most users. At the time the clip is applied, a control number may be stamped on one side of the clip.

One of the clipless closure types referred to above consists of making the two usual double folds and then turning the corners back obliquely. Another type is accomplished by making the two usual double folds with the second fold wider than is customary and then folding this double fold in a reversed direction after which the corrugations are applied to give added strength and security to the tube contents or by making an integral clip from the tube metal itself.



Full automatic tube filling, closing and sealing equipment for packaging ointment. Special blunt closure provides over-filled tube which enhances sales appeal and reduces container cost. One operator; 50 tubes per minute. Courtesy, F. J. Stokes Company

A decorative band to match the tube decoration can be used on the end of the tube to enhance its appearance. Control numbers or dating codes can be stamped on the tubes using the clipless closure. Ejection of the tubes from the machine after the three operations of filling, closing and clipping are performed, can be automatic or manual as desired.

Electric Eye for Tube Registration

A recent development in collapsible tube filling is the application of the electric-eye as utilized to obtain proper registration, during the filling and closing operations, of trade mark or other decoration on the face of the tube. Formerly done by operators, it is now possible to get placement automatically at higher speeds.

TWO BOOKS FOR THE INDUSTRY WE SERVE

Whatever your packaging or bottling problem, one of these two Workbooks contains a lot of mighty valuable information for you. They are not catalogs even though many of Pneumatic's machines are pictured and described. Each is filled with practical, usable, proven suggestions based on our near half-century of experience in the industry we serve. Both books, conveniently indexed for quick reference, are available at Pneumatic's nearest office. Simply tell us which one you want, and it will be sent promptly to any packaging or bottling executive.

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Packaging Workbook: A complete presentation of folding carton packaging of dry products including single machines, hook-ups, package construction and packaging material samples.

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LOWER COST *per* Container

PNEUMATIC SCALE

Packaging and Bottling Equipment

SHIPPING CONTAINER SEALING EQUIPMENT

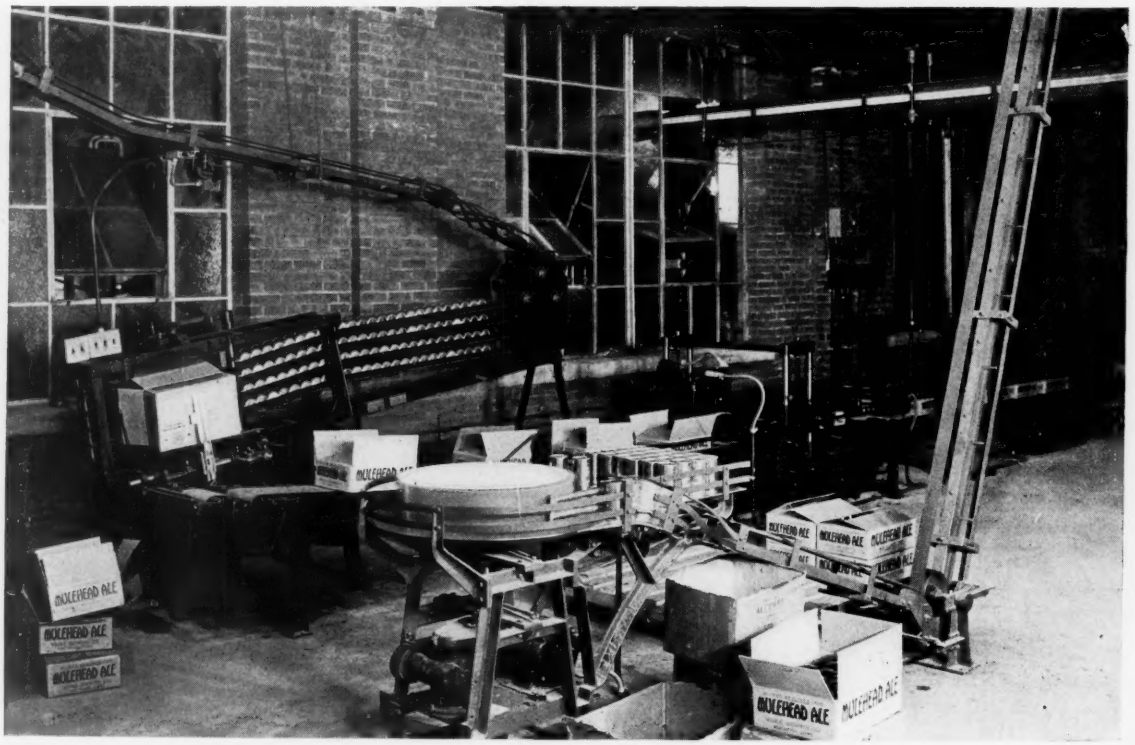
by W. D. KIMBALL

VAST IMPROVEMENT has been made in the methods and equipment employed in the packing and sealing of solid fibre and corrugated paper shipping cases in the last decade. During that time methods employed in sealing cases have passed through several distinct phases.

When paper cases first came into general use, it was almost uniformly the practice to make up or glue the bottoms of the containers before the goods to be shipped were packed therein. As a rule this was accomplished by applying adhesive to the inside bottom flaps, folding the outer flaps over and then placing weights on the inside of the case until the bond was formed. In many instances forms were provided over which the case to be made up was placed, adhesive applied to the flaps and pressure brought to bear on the flaps over the forms by means of a lever and toggle-point. All this required the services of an operator to make up the bottoms of the cases before they were packed, and still another operator was required to seal the tops of the cases after the goods were packed therein. This last operation as a rule was accomplished by applying adhesive to the inner flaps, folding the outer flaps in place and then piling the cases one on top of the other on trucks or on the floor, the weight of the goods in the cases being the only pressure exerted to effect the bond.

It gradually became apparent that it was unnecessary to make up the bottoms of the cases before packing the contents therein, and to supply the demand for a machine to meet this requirement, the manufacturers of sealing equipment evolved a simple drying or compression unit consisting of a top and bottom roller bed, the rollers in the top bed being fitted with compression springs which caused constant pressure on the case as it passed through the machine.

The operation of this equipment required that the operator fold under the bottom flaps in the position which they would occupy when sealed, and before applying any adhesive the goods were packed in the case, the top flaps were folded over, adhesive applied and the case turned over with its bottom up. Then the operation of gluing was repeated on the other end of the case and the box inserted in the machine. This was a long



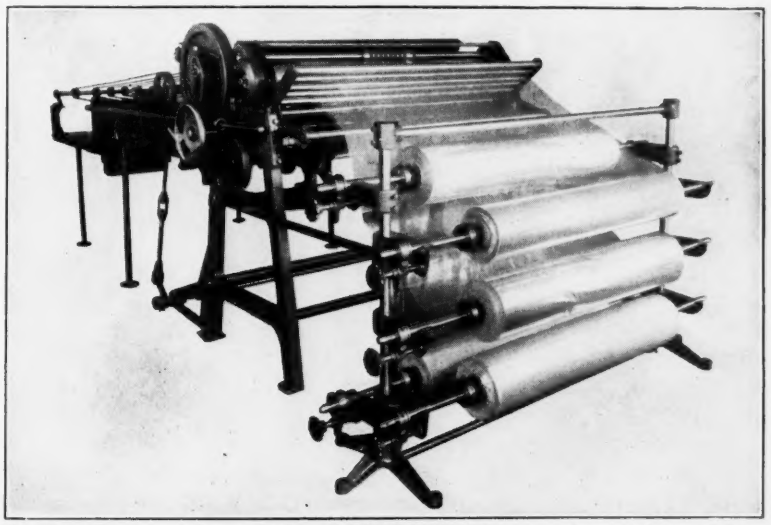
At right is a standard case sealer in which means are provided for squaring up the case and bringing the abutting flaps close together to form a tight longitudinal seam. At left is a high speed can caser which automatically collects the cans in a can forming enclosure and pushes a full load into the corrugated or fibre container. The illustration is typical of the equipment lines now being installed by breweries.
Photo courtesy of Standard-Knapp Corporation

BECK

Automatic Roll Sheet Cutters——Slitters & Rewinders

WE OFFER YOU through many years of wide experience our help in solving your Sheet Cutting as well as your Slitting and Rewinding problems. To those working in all kinds of transparent cellulose materials, foils of various kinds, box board, glazed and fancy box cover papers, book materials, buckram, imitation leather, oil cloth, parchments, waxed, glassine, and tissue papers, textiles including curtain goods, pillow cases, window shade cloth, burlap and cotton bags, we will be glad to explain the equipment which we have designed and developed for the specific REDUCTION OF YOUR LABOR COSTS and the INCREASE OF YOUR PRODUCTION.

Fully Ball and Roller Bearing Equipped Counter—Curl Remover—Sheets Neatly Stacked in Jogger Table—Adjustable Brackets for Sidewise Shifting of Parent Roll—Slitting Attachment if Desired . . .



Showing Sheeter cutting 5 Rolls of "CELLOPHANE" at a time. This model on certain kinds of material may be operated at speeds as high as 70 CUTS PER MINUTE, 5 ROLLS AT A TIME

The Beck "Demi" Sheeter

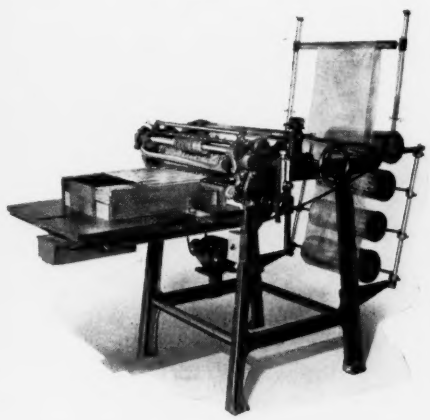
Our small machine for those who seek a less expensive sheeter. Ball bearing equipped too. CUT REGISTER, Slitting attachment and Counter may be added if desired. The "DEMI" handles rolls up to 22″ in width, and cuts from 1/8″ to 24″ in length. Cuts 4 rolls at a time. Stacks sheets into neat piles. Equipped with motor. May also be equipped with slitter.

Cut Register Attachment

for cutting to printed register may be had for both large and "Demi" sheeters.

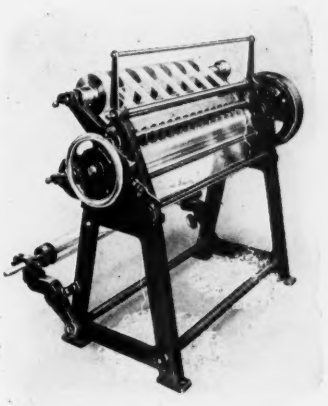
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slitter and rewinder. A razor blade cuts in a grooved brass roll. Gives dustless cut and beautifully polished edge on "Cellophane," Sylphrap and similiar materials. Individual Rewind Tensions adjusted without stopping. Accurate widths. Fully ball bearing equipped. All four corners of blade are utilized, spelling low maintenance costs.



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for acetate or similiar materials, where razor blade may not be suited. Here a thin disc cutter driven at speed is used to avoid building up of edge in rewinding—also used for tin foils.



Our Style "S" Slitter

Here we employ a set of upper and lower blades cutting against each other—shear principle. This we recommend for paper, glassines, etc.

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CHARLES BECK MACHINE COMPANY
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step forward as compared with the original method of making up the bottoms of the cases, as it required but one person to operate the machine, resulting in a saving of 50 per cent of the labor cost.

The next logical step was the automatic gluing device for the application of adhesive to both the top and bottom flaps of the case with the goods already packed therein. With the advent of the automatic gluing device used in connection with the compression unit, the demand for automatic gluing and sealing units was greatly increased because of the tremendous saving in labor cost, and because through the use of automatic means, cases were sealed in a more uniform and satisfactory manner than by manual methods.

The manufacturers of automatic equipment have constantly had in mind the thought that it was up to the machine to properly seal all cases, irrespective of the slight irregularities that occur in the manufacture of paper shipping cases. It is only reasonable to expect that such irregularities may exist for there is no assurance as to exactly where the board will break at the score line. The score line itself, is, as a rule, $^3/_8$ in. to $^1/_2$ in. wide, and if the hinging of the flap takes place exactly in the center of the score line, then the flaps will come together without the need of the lateral pressure. But if the break occurs near the top edge of the score line, the outside flaps will be short and some rolling pressure on the case is required to bring these flaps together to make close abutting seams. Manufacturers of automatic sealing equipment have furnished appliances which take care of these varied conditions.

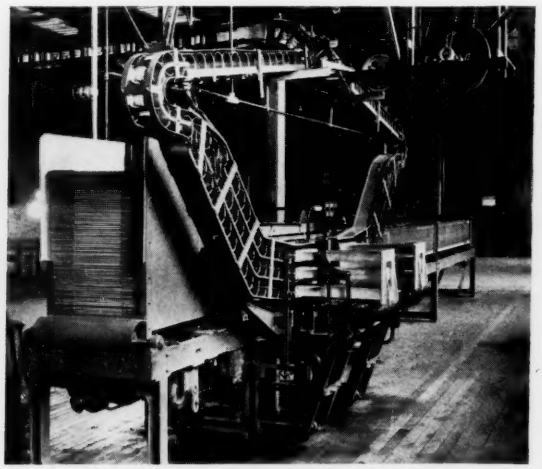
In the past few years there has been a demand for what is known as strip or spot sealing in instances where cases are shipped to destination and then opened for repacking or resorting. To supply this want, manufacturers of sealing equipment have developed machines which lay narrow strips of adhesive over the flaps that are sufficient to seal the case and hold it in rigid rectangular form, but which make it possible to open the case without destroying the flaps so that the box can be resealed and used for the reshipment of goods.

A long-felt want was filled when the machine manufacturers supplied automatic sealing equipment with a power-driven adjustment to effect the setting of the machine from one size case to another, as there are many manufacturers who have large runs of cases with many different sizes, and it was necessary to supply a means for making practically instantaneous change from one size to another in order not to curtail production.

There has been a constant demand in recent years for an increase of speed in the operation of sealing equipment, due to the speeding up of manufacturing lines, and the automatic sealing machines which are now manufactured in many instances have a capacity of as high as thirty to forty cases per minute, and they attain this speed without serious strain or wear and tear on the equipment involved.



Battery of fully automatic machines for closing top inner flaps, opening outer flaps, applying adhesive, closing flaps and carrying cases. Courtesy, J. L. Ferguson Company



Combination automatic container opening, can assembling, case loading and case sealing machine. Operating speed ranges up to 20 cases per minute. Courtesy, J. L. Ferguson Company

There are practically no reciprocating parts in the modern case-sealing equipment, all motions being rotary, and shaft speeds, even in the higher capacity machines, are comparatively slow.

One of the difficulties which the manufacturers of sealing equipment encountered where the automatic machinery was first evolved, was to find space in the manufacturer's plant of sufficient dimensions to permit of the installation of the machines in question. It is a fact that for a given number of cases there is not as much space required for an automatic sealing unit as would be required to seal the same number of cases by hand, but it has been evident that insufficient thought was given in the planning of certain plants, to provide the proper amount of space to carry on this operation.

This condition has largely been eliminated as plant engineers and industrial architects have come to consider sealing equipment as absolutely necessary to the successful handling of the product and are giving more thought at this time to the providing of sufficient space at the proper point for the sealing installation.

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STAPLING EQUIPMENT

by F. I. BROWN

MODERN merchandising methods first popularized and now demand the packaging of bulk or staple items in convenient units for instant delivery and sale. In many cases the spare time of clerks is utilized to pack these sale-size units in paper or transparent cellulose bags, sealing them quickly and securely with hand stapling devices. Where the work runs into volume and can be concentrated, foot-power or motor-driven staplers are employed. The cleanliness and convenience of such packaging is a great sales stimulant as well as a time-saver for clerks and customers.

Another use of staple-packaging is in the assembly of related items that should constitute the unit of sale. Bolts, nuts, washers, screws, etc., that should accompany an article of merchandise are stapled to a card, so that the customer is not kept waiting while the clerk makes the assembly and does not forget to purchase these necessary incidental items. This increases the sale by rendering a real service to the consumer.

Often this carding has to be done in different parts of the store or plant and small economical stapling machines are required. A wide variety of items often requires staples of several sizes, and quick, inexpensive adjustments of the machines must be possible. This demand has developed efficient, economical machines to handle any stapling job of this type.

Perhaps the broadest use of stapling in recent years has been in carding for display. Items of merchandise that are too small to possess sufficient attention power or to carry sufficient sales information are stapled to cards which present the message to the consumer. Such cards serve to identify the brand and the manufacturer, to convey a selling message that the article itself is too small to carry and the salesperson too busy to tell, to carry directions and explanations that insure the proper use and care of the product, to advertise other items made by the same manufacturer, and to discourage pilferage from counter displays.

Practically any item that can be embraced by a staple can be carded in this way. Bottles or other fragile merchandise can be safely and quickly handled, because the pressure of the stapling machine can be accurately



Staplers being used for carding small items of merchandise. A stitcher, shown at left, is also used

BURT PACKAGING MACHINERY FOR ROUND CONTAINERS

•Automatic APPLICATION OF LABELS
PACKING CANS IN CASES
SEALING THE SHIPPING CONTAINERS

•Labeling Machines Full length overlapping labels applied by the dry method at speeds of from 125 to 600 cans per minute

•Case Packers Assemble cans as they roll from the Labeling Machine and place these into shipping containers. A hand lever model is the initial step from "hand work" and with intermediate models, there is finally the motor driven style which automatically dumps the filled case on to a conveyor

•Case Sealers Receive filled cases from any source, open the flaps, apply gum, close the flaps and subject them to pressure, the case then emerging ready for stacking or shipment. The BURT SYSTEM OF SEALING comprises some very desirable features of interest to everyone contemplating the use of automatic equipment.

BURT MACHINE COMPANY

BALTIMORE, MD.



New York City

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Established 1894





Double head electromagnetic stapler sealing bags

controlled without variation and the staple can be firmly clinched with no appreciable pressure whatever on the object being enclosed.

Stapling is much faster for most kinds of bagging and carding than tying or gluing. There is no waiting for an adhesive to set, and the staple will hold regardless of temperature or moisture. Furthermore, stapling machines are portable and can be placed wherever is most convenient for the work in hand. For example, in retail stores, where pre-packaging is to be done by clerks in odd moments, hand-operated machines are used on each counter where the work is handled. Manufacturers and distributors can better concentrate their work and more often use foot or motor driven machines for both packaging and display. In the field, where fruits and vegetables have to be packaged as picked, stapling machines are used because of their portability.

The automatic feed staple-hammer is also widely employed in packaging and shipping operations. Driving a staple like a double-pointed tack, with each single blow, this hammer is an efficient time-saver in covering crates, in lining boxes, cars and boats, and in tacking cards and labels on boxes, crates and barrels. Requiring but one hand for operation, it leaves the other hand free for handling the material that is being tacked.

It is interesting to note that all these applications of stapling are based on wire-stitching and are developments of the familiar desk fastener that has modernized the methods of attaching and filing papers in offices and factories all over the world during the past decade. The security, safety and convenience of the wire staple in office work revolutionized these methods, and now the perfection of the desk fastener has extended its scope of usefulness and eliminated troubles, assuring uninterrupted, accurate operation. The application of modern principles of design to this new fastener is an illustration of the added sales value given to a product when its appearance is improved.



Hand stapling of store-packed grocery items

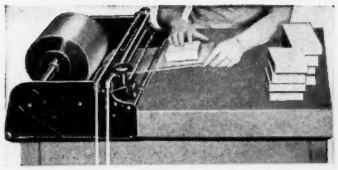
Summing up, stapling permits a method of fastening which is secure, economical, speedy and offers flexibility in use. Both hand and power devices have been constantly improved to meet established uses as well as to adapt them for special work. Inasmuch as wire is used as the bonding material in stapling as well as in stitching, there may be confusion in the minds of some between the two operations. The latter, as applied to fibre shipping cases and similar types of containers is described on page 448. Included with this article is a chart indicating the cause of perfect and imperfect stitches which may be of interest as relating to stapling.

PAPER BOX MAKING MACHINERY

ARE paper boxes, packages? Obviously, when they are "made for a purpose," and completed with identifying printed papers, they assume the distinction of a package. Particularly when, as during the past few years, the development of automatic machinery has provided the means for creating many effects hitherto impossible. This machine development has been ably seconded by the fact that paper manufacturers also anticipated the

Low Cost MECHANICAL AIDS FOR HAND PACKAGING

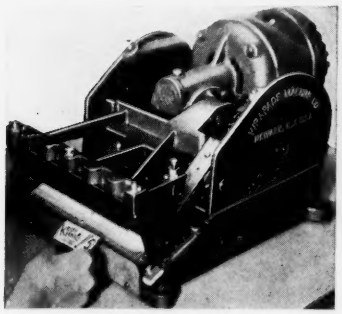
Costing hundreds instead of thousands—small, inexpensive, semi-automatic machines, adjustable to varying sizes, which save space—save materials—and greatly reduce costs of packaging.



HAND SHEETER-GLUER, a semi-automatic wrapping device devised for use on

(1) Products for which no automatic wrapping machines have been developed, such as bottles, sponges, bed sheets, polishing cloths, paper cups, shirts, novelties and jars.

(2) Small production runs of cartons, boxes, etc.



POWER CRIMPER & SEALER—For heatsealing cellulose bags—absolute, mechanical, control of heat, pressure, and duration of application. Makes strong, attractive, sift-proof seal.

We build a complete line of heat treating bag sealers, including folding device and hole punching unit, the latter eliminating the use of metal eyelets.

If you are using transparent envelopes for powder puffs, handkerchiefs, notions, necktics, dress shields, etc. you can use the Sheeter-Gluer and Crimper Trimmer to make your envelopes from roll cellulose around your product. Tremendous savings are possible by this method because you use roll cellulose (the most economical form) instead of cellulose envelopes.

AUTOMATIC CELLULOSE TUBE MAKING MACHINE—Adjustable in flat width up to 6"—in length to 11". Makes 55 to 60 tubes per minute with one attendant. A semi-automatic model is also available.

AUTOMATIC HEAT SEALING CELLULOSE BAG MAKING MACHINE—Makes flat bags with crimped bottom in same specifications as indicated for Tube Making Machine.



A FEW OF THE USES OF WRAP-ADE MACHINES

1. Laundered Shirt — attractively packed in combination cellulose and paper envelope, made on Shirt Envelope Machine.
2. Cellulose bag, heat sealed by Power Crimper.
3. Talon Slide Fastener (Zipper) in cellulose envelope, made around the product by means of the Sheeter-Gluer and Crimper Trimmer.
4. Sheets, pillow cases, etc. wrapped in transparent cellulose by Sheeter-Gluer.
5. 5-lb. candy box, cellulose wrapped by Sheeter-Gluer.
6. Household sponge—a difficult article to package—economically wrapped with aid of Sheeter-Gluer.
7. Bottles wrapped in T. C. by Sheeter-Gluer.

These are but a few of the numerous articles packaged economically by the low cost machines we offer.

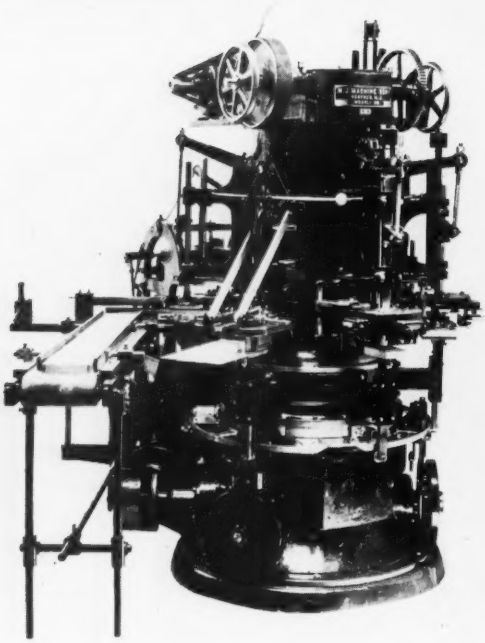
Packaging Machines by Wrap-Ade—Hand Sheeter-Gluer, Power Crimper, Foot Crimper, Shirt Envelope Machine, Tube Machine, Bag Machine.

THE SAVINGS POSSIBLE TO YOU, through the use of our inexpensive, semi-automatic packaging machines will be given in detail, if you will write us your requirements.

Wrap-Ade Machine Co.

INCORPORATED

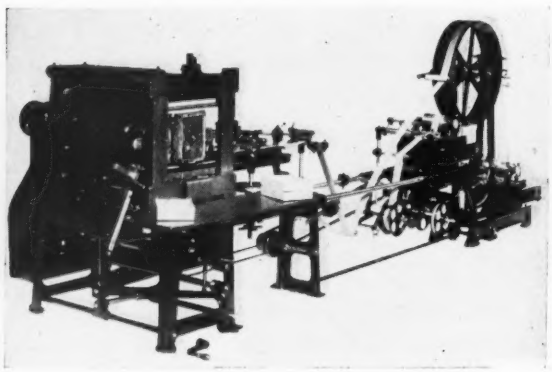
215 CENTRAL AVENUE · NEWARK, NEW JERSEY



Fully automatic box wrapping machine

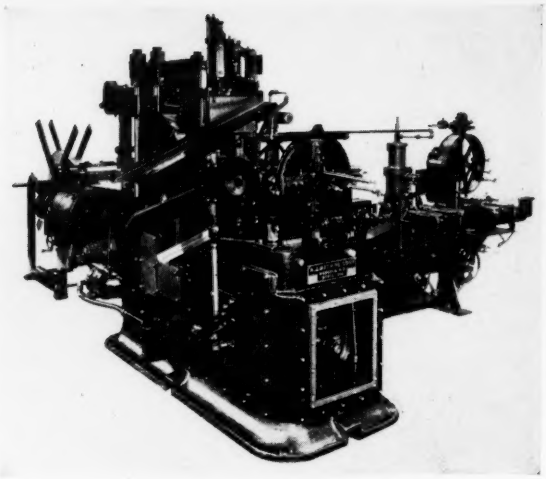
demand for improvement in box making. Package designers, and plants producing their own boxes, complete or in part, are particularly pleased by the package improvements achieved with the aid of standardized machine operation.

Set-up boxes and methods of making them in their many types and styles may be grouped as follows:



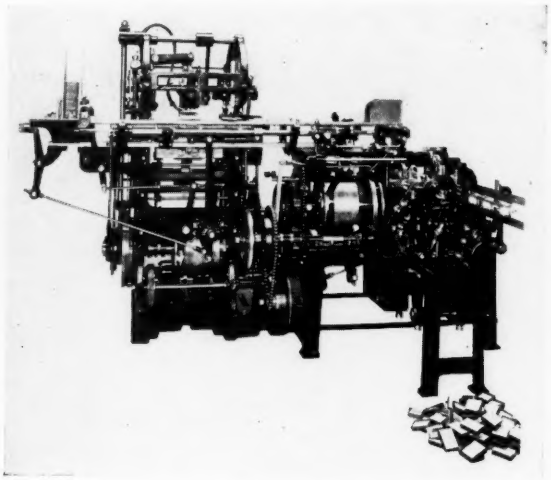
Semi-automatic stripper for large boxes

1. *Stripped and Top Labeled Boxes:* The question of paper wastage prompted a different technique in box making. Since the bottom of the box is almost never seen, the larger boxes offer a decided saving in cost when made merely by covering the sides of the box, turning over the bottom edge, and turning-in the upper. This type of box, used for candy, shoes, rubber goods, shirts, collars, knit-goods, hosiery, etc., can be made on either semi-automatic, or fully automatic units. Naturally on large runs of standard size, the economy is appreciable, without really affecting the appearance of the box. For such work, fully automatic machines are available, although for most purposes the semi-automatic units are favored. A battery of units, assembled in production line, cut the board, make the boxes, strip them and apply the top label.



Automatic complete box making unit

2. *Wrapped Boxes:* This is the method by which many of the ordinary boxes are made. The process, mechanized, still requires a skilled operator, with part time of an attendant to feed and remove the completed boxes. Recent improvements have increased the potential speed of the wrapper, the gumming of the wraps being done by a gluing unit, which conveys the wraps to the operator. There is also an improved unit which takes the wraps from a hopper, applies the adhesive, automatically registers the set-up box on the wrap and feeds it to the wrapping unit.



Automatic blanket top box unit (complete box maker)

3. *Blanket or Pinched Top Boxes:* These are packages made in box-form, combining paper of two differ-

Johnson Automatic Packaging Equipment is the Choice of Leaders

FOR SEALING — WEIGHING
PACKAGING — WRAPPING
20 TO 120 PER MINUTE

A FEW WELL KNOWN USERS:

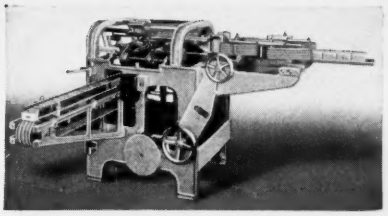
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National Biscuit Co.	Morton Salt Co.
Quaker Oats Co.	Bristol Myers Co.
Johnson & Johnson	Gold Dust Co.
Proctor & Gamble	American Chicle Co.
Loose-Wiles Biscuit Co.	Standard Brands, Inc.
Post Products Co.	H. J. Heinz Co.
A. Goodman & Sons	National Grocery Co.
Drake Bakeries	Jersey Cereal Co.

Colgate-Palmolive Peet Corp.

California Packing Corp.

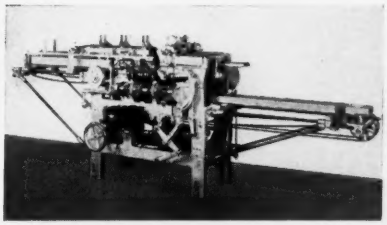
Johnson Automatic Sealer Co., Ltd.

Battle Creek, Mich.



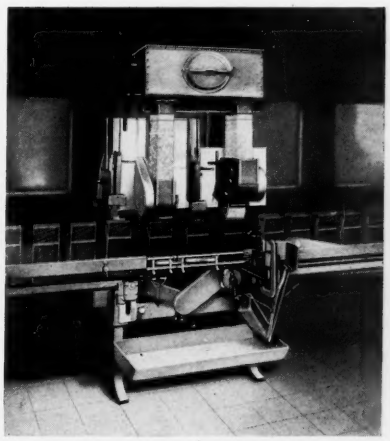
WRAPPING MACHINES

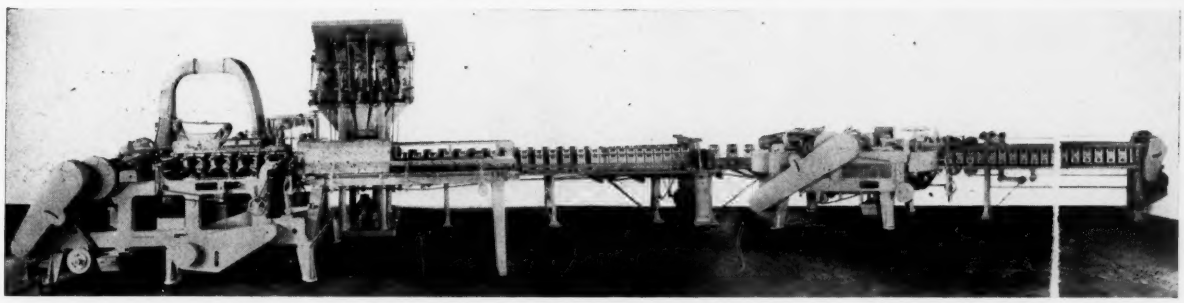
Illustrated here are two of the 32 different wrapping machines manufactured by Johnson Automatic Sealer Co. A type of machine for practically every purse and purpose.



SCALES

Gross weight and net weight scales—Volumetric fillers. For fully automatic or hand operation on all dry products.





High Speed Automatic Feeder and Bottom Sealer | 90 per Minute Net Weight Scales | Triple Conveyor | Accumulator | 90 per Minute Top Sealer | Drying Mechanism

ent types or colors, "blanketing" the top with the trade-mark label, and "stripping" the sides. There is a fully automatic unit capable of precision work for high grade products, at a speed which assures economy.

4. *Padded Top Boxes:* Like "domed tops," the padded top is an effect which adds distinction to the package. Mechanical units which handle the paperboard box and equip it with a cotton or paper pad, spotting the pad correctly on the inside portion of the top-label, and applying the complete, padded top to the box, have been standardized, so that a wide range of box sizes can be fitted with "padded tops" necessitating merely minor "form" adjustments.

5. *Odd Shaped and Multi-Cornered Boxes:* Fully automatic box, or package making units, are available for the "hand-made" type of box—those containers with unusual shapes—three, four, five cornered, even six or eight sided. They are outstanding "de luxe" packages suitable for a multitude of products. Modern trends toward ultra-distinction have built a market for these boxes which are most economically produced by high speed, precision automatic machines.

6. *Slide Boxes:* Many items are packed in slide boxes, the type comprised by a "shell," and the slide which carries the product, and fits snugly into the shell. Machines for making the shells, and for the slides, as well, are available. They are essentially speed machines, designed to operate at low cost.

7. *Telescope Boxes:* This is the type of box wherein the lid fits completely over tray. Methods of making these vary from the semi-automatic type requiring a single attendant, to the fully automatic (see paragraph 2) which takes board and paper from feed rolls. Such units are particularly economical where quantity production is a factor. The boxmaker, for instance, can produce first, the tray, and then its telescopic cover, and at other times can produce just trays of the same, or varying sizes, intended for transparent cellulose wraps.



Brightwood and Universal collapser

8. *Boxes with "Necks" or "Shoulders":* Problems in packaging which can be met with rectangular boxes, may find attractive appearance, in the happy solution of production by a unit which makes tops and bottoms of exact size and obtains a snug fit for them by use of a "neck," which is produced on a different unit, inserted after an "inside gluer" applies adhesive to the boxes as a conveyor feeds them from the box-making machines.

9. *Hinged Top Boxes:* One of the problems in production is the application of a hinge to packages, or boxes so that the container is permanently attached to the top, by a paper hinge, either inside, or part of a top and bottom label. There is a machine which does this work successfully and economically.

FIBRE CAN MAKING MACHINERY

by W. H. FRICKER

MUCH has been said and written about the advantages of fibre-bodied cans and their adaptability to packaging of various commodities, but little has been written about the equipment that has made this packaging progress possible and the history connected with the development of such equipment.



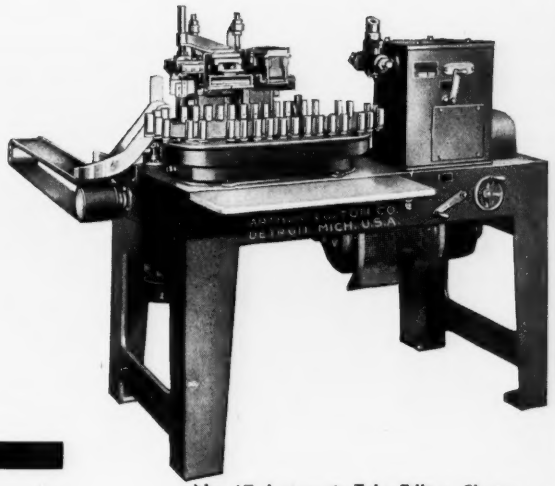
Paper tube saw and cut-off machines in operation in a food products plant. Courtesy, J. L. Ferguson Co.

In the year 1890 the first semi-automatic equipment for gluing the sheets was developed by the M. D. Knowlton Company, and at about the same time this company developed the semi-automatic tube roller. Both these pieces of equipment are still used in smaller plants where the production requirements do not warrant the fully-automatic machines described hereafter.

In the semi-automatic process the paper board is first passed through a sheet gluing machine where the adhesive is applied, leaving the uncoated section required for the inside ply. This sheet is then laid on a forked rack thus enabling the adhesive to obtain its proper tack for rapid adhesion.

The sheet stock is then taken to the tube rolling machine. The uncoated section of the sheet stock is inserted into the lip of a collapsible mandrel on the roll-





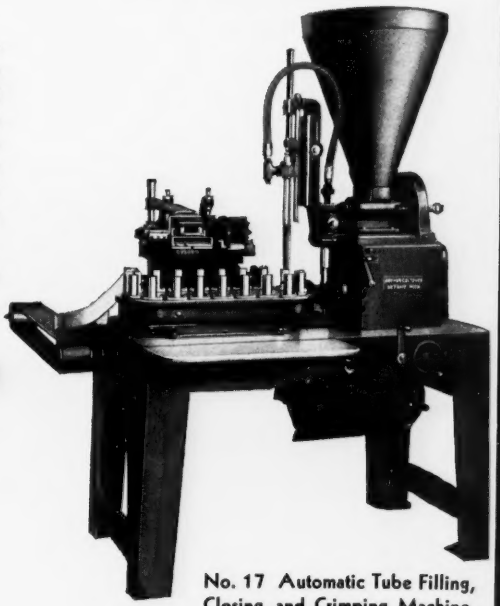
No. 17 Automatic Tube Filling, Closing, and Crimping Machine, TYPE C

COLTON FILLING AND CLIPLESS CLOSING MACHINES

Three new machines not only modernized in design but they embody many new improved mechanical features to make for smoother operation as well as flexibility in speed to varied conditions by adding variable speed control, new type clutch and filler drive. Motor, clutch and transmission mounted underneath bed, push button motor starter, built in air valve for nozzle cut-off, improved nozzle operating mechanism, automatic nozzle cut-off to prevent drip. Can be equipped with our new electric drive stirring device (at extra cost).

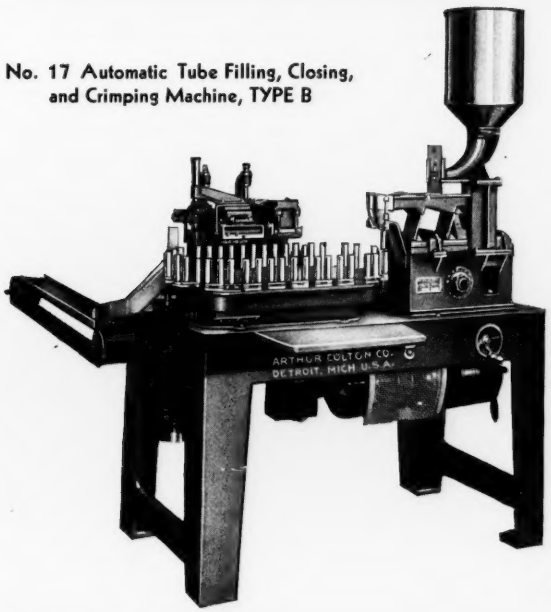
Type A for pastes, Type B for powders, Type C for liquids.

Types B & C can be equipped with twin tube holders (at extra cost) for tubes up to $\frac{3}{4}$" dia.



No. 17 Automatic Tube Filling, Closing, and Crimping Machine, TYPE A

No. 17 Automatic Tube Filling, Closing, and Crimping Machine, TYPE B

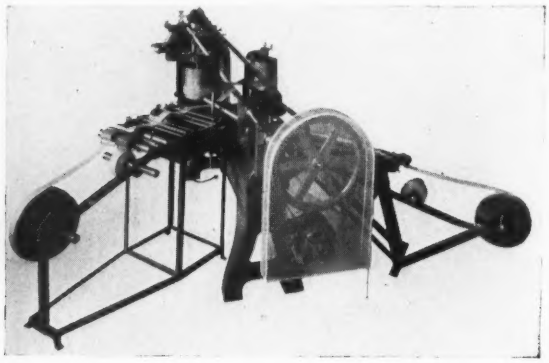


ARTHUR COLTON CO.

2602 JEFFERSON AVE., EAST

DETROIT, MICHIGAN

ing machine, the treadle pressed which closes the lip of mandrel and simultaneously starts the mandrel in motion. The tubes are then wound to conform with the mandrel dimensions. The number of ply or wall thickness of tube is determined by the length of the sheet being wound. The tubes or can bodies are usually rolled into lengths approximately 36 in. long. It is the regular practice to cut these tubes to individual body



Spiral tube winding machine. Courtesy, M. D. Knowlton Co.

can heights on the same machine as this machinery unit is equipped with a cutting bar which holds a series of cutting knives. The location of these knives on the knife bar severs the long tube into predetermined lengths.

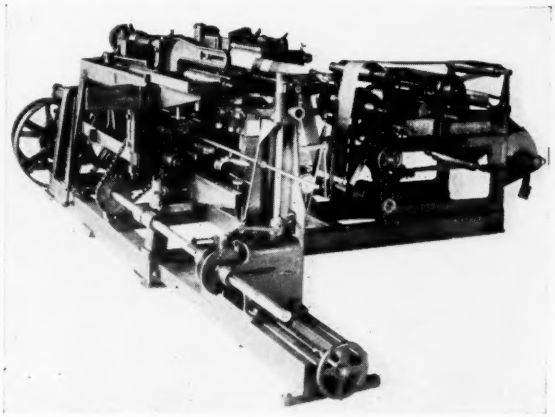
In the early days paper slip covers were used more extensively than tin. First a round disc was stamped on a single action press with a flange approximately $1/2$ in. deep for gluing to the end of tube body. Later development was made in stamping presses that enable the taking of a roll of paper board, automatically feeding same to positive length under the forming and cutting dies. The machine, being of the double-action type, cut the disc and formed the cap in one travel of the plunger, discharging this cap into a suitable receptacle.

The reception of the fibre-bodied can by manufacturers and packers alike was so outstanding and the demand for this type of package so great that immediately equipment was designed and built to obtain increased production of the can bodies. At this time the spiral tube winding machine was developed for taking paper in ribbon form from the roll, winding it over a mandrel to exact diameter requirements and to the wall thickness desired, this wall thickness being determined by the thickness of the ribbon board stock and the number of ply or ribbons being applied.

This means that the paper tube is automatically wound to accurate diameter and of correct wall thickness. An independent saw or cut-off, put in straight line with the winder, severs this traveling spiral tube body. The saw mechanism travels on a carriage with the tube thereby not retarding travel of tube while in process of cutting. This independent saw cut-off is located at proper distance from the winder to permit tube to dry sufficiently before actual cutting. The next operation is that of recutting this 36 in. length tube into can body lengths. This is done on a recutting machine where the tube is merely slipped onto a mandrel. The cutting arbor with knives properly located comes into contact with the revolving tube and severs same into predetermined lengths.

The spiral tube equipment as it is designed and built today has every convenience for obtaining high-class tubing with snug butts or joints, as well as applying high-priced finishing paper to outside of tube, which enables the user to manufacture not only plain fibre can products but also high-class cosmetic powder boxes. The spiral tuber as outlined above with special combination glue and paraffin units is used extensively in the manufacturing of food containers such as used for packaging ice cream and delicatessen products such as salads, baked beans, etc.

The latest and most modern equipment used in the manufacture of fibre-bodied cans is the automatic convolute winding machine. This winder accepts the paper stock from the roll, applies adhesive, automatically feeds the paper into the lip of the collapsible mandrel, cuts the paper to exact lengths, and winds a round, rectangular or irregular shaped tube body from three to six plies. A unique slitting attachment is built into this machine enabling the slitting of the paper stock in travel so as to allow the obtaining of multiple can bodies within the given range of the machine. The automatic labeling attachment is a feature, which applies lithographed labels to the can bodies at the time of winding, thus producing a finished labeled can body ready for the seaming of tin tops and bottoms. Every operation of this modern machine is fully automatic.

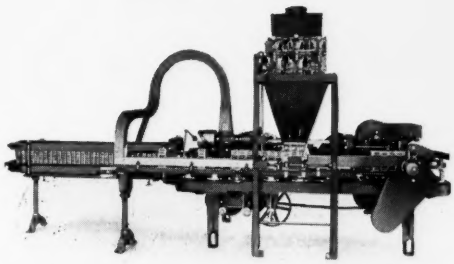


Automatic convolute winding machine

The last mechanical operation in the manufacturing of the fibre can is that of applying the tin ends. This operation or assembly is done on what is known as a roll seamer, either the round or irregular type as required. The operator places the tin end on the fibre can body, locates same on the seamer chuck, and presses the treadle. The seaming rollers turn in the tin end which fastens itself under pressure to the side wall of the fibre can body. This operation is completely accomplished in seven revolutions of the chuck, independent of the operator, giving what is known to the trade as "a false double seam."

PACKOMATIC ENGINEERING

CUTS YOUR PACKAGING COSTS!



PACKOMATIC CARTON SEALER & WEIGHER

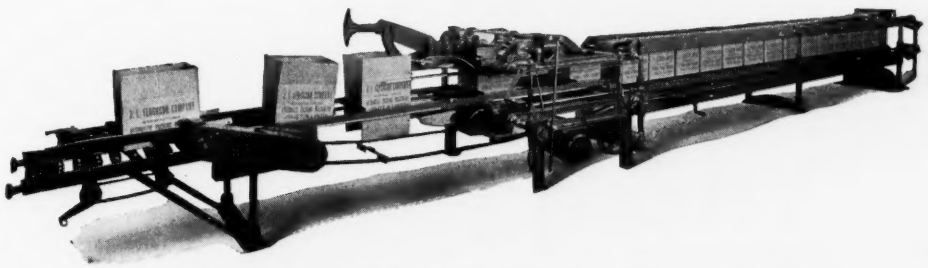
PACKOMATIC combined bottom and top carton sealer equipped with automatic net weigher. Convertible for a wide range of package sizes. Three packages are filled simultaneously and a production of 60 packages per minute guaranteed.



PACKOMATIC ENGINEERING DEPARTMENT

Here ingenius minds develop equipment that saves thousands of dollars each year for hundreds of manufacturers who package their product.

Thru the constant efforts of a staff of technically trained engineers, PACKOMATIC machines are always up-to-the-minute in design, construction, and operating efficiency. This is why PACKOMATIC equipment reduces packaging costs.



PACKOMATIC SHIPPING CASE SEALER WITH 18 FT. COMPRESSION UNIT

This machine receives filled shipping containers, closes top inner flaps, opens top and bottom outer flaps, applies adhesive, folds flaps and carries cases under compression.

Rapidly adjustable for a wide range of case sizes and is furnished with any length compression unit and for any desired operating speed.



AUGER PACKER

For products that require force feeding and packing. Speed up to 30 per minute.

PHONE—WRITE—OR WIRE FOR DETAILS—NO OBLIGATION

PACKOMATIC

PACKAGING MACHINERY

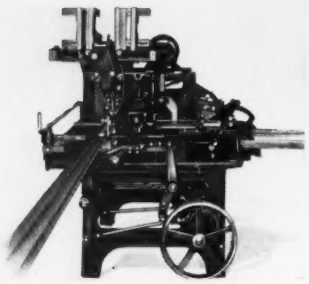
J. L. FERGUSON COMPANY, JOLIET, ILLINOIS

NEW YORK — CLEVELAND — SAN FRANCISCO — CHICAGO
ST. LOUIS — NEW ORLEANS — LOS ANGELES — SEATTLE
SAN ANTONIO — DENVER

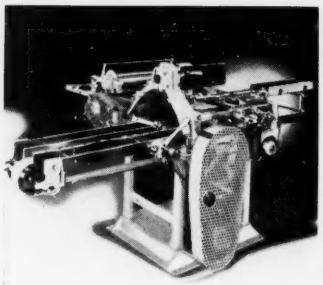


AUGER FILLER

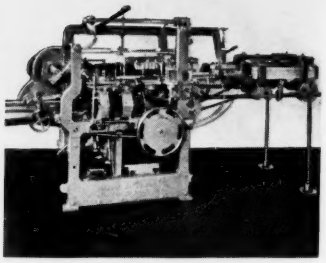
For volume filling powdered products with accuracy, speed and cleanliness.



MODEL S
Toilet Soap Wrapping Machine, used for Lux, Camay, Palmolive and other well-known soaps.



MODEL FA
A low-priced carton wrapping machine, adjustable for a wide range of sizes.



MODEL F-9
Extremely versatile carton-wrapping machine, adjustable for a wide range of sizes.

PACKAGE MACHINERY

Let us help you solve your packaging problems . . .

The Package Machinery Company, having been founded in what might be termed the dawn of the package goods era, has taken a leading part in the development of packaging machinery. Each year has seen an increase in the variety of goods packaged by our machines.

It is impossible to show here the large number of machines in our line, and the many types of wrapping they produce. Briefly, however, they fall into the following classifications:

1—Machines which wrap cartons in printed paper wrappers, plain or printed transparent wrappers, foil, etc.

2—Machines which wrap the product itself in practically any kind of material—candy bars, yeast cakes, chewing gum, cigars, razor blades, etc.

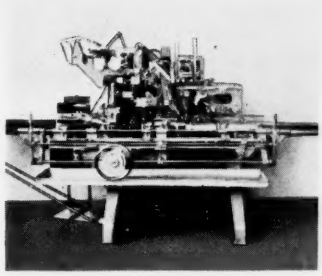
3—Combination bag-making, weighing, filling and sealing machines for such products as coffee, tea, rice, etc.

4—Bundling machines for enclosing cartons in bundles of a dozen or half-dozen lots. (Effects large savings on cost of using boxes.)

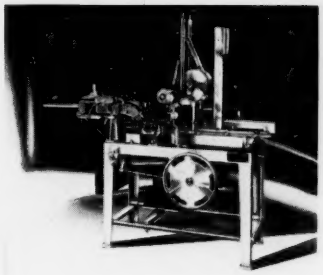
PACKAGE MACHINERY COMPANY

NEW YORK CHICAGO CLEVELAND

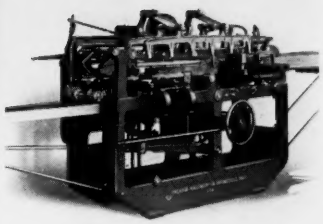
Peterborough, England
Baker Perkins, Ltd.



MODEL CA-2
Hershey's, Nestle's, Baker's and other popular chocolate and candy bars are wrapped on this machine.



MODEL AA
The machine that wraps Lucky Strike, Camel, Chesterfield, Old Gold Cigarettes, etc., in "Cellophane."



MODEL F-6
Bundles packages in dozen or half-dozen lots, eliminating the expense of packing in costly cardboard boxes.

COMPANY, SPRINGFIELD, MASS.

Our machines wrap a wide variety of products

Our machines have been instrumental in bringing about many recent packaging improvements. They were the first machines to wrap with transparent cellulose. By perfecting electric-eye registration we made our machines adaptable to the use of printed transparent material in roll form, thus effecting large savings in the wrapping of candy bars, chewing gum and many other products. Easy opening devices were next perfected and applied to our machines. Our tight-seal wrap, now widely used for protecting food products, tobacco, etc., was another important contribution to packaging.

Most models in our line are adjustable for handling a wide range of sizes, as well as being adaptable to practically any type of wrapping material. In addition to its immediate advantages, this flexibility provides for future changes—you can add new package sizes to your line, or change the type of wrapping material used without investing in entirely new machines.

We will be glad to assist you in devising packaging methods for new products; in improving your present package, or in lowering your packaging costs. Get in touch with our nearest office.

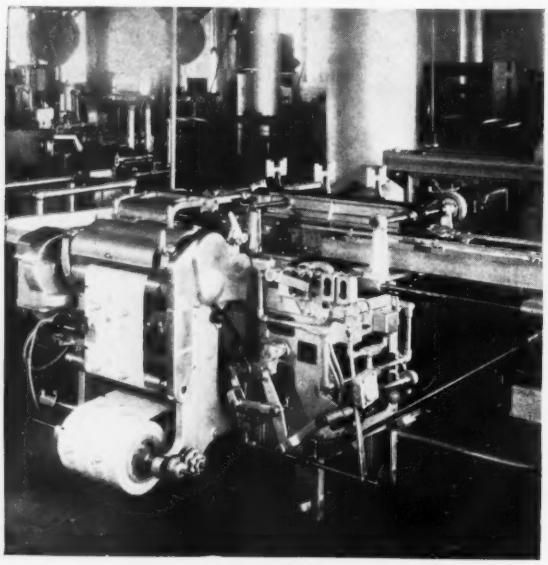
SPRINGFIELD, MASSACHUSETTS

LOS ANGELES MEXICO, D. F., Apartado 2303

Melbourne, Australia
Baker Perkins, Pty., Ltd.

ELECTRIC EYE IN PACKAGING

ELECTRONIC TUBES have and will even further aid in perfecting the operation, and increase the present permissible speeds of many different machines and processes used in the packaging industry. There are various types of these electronic tubes available, each having different characteristics. Those sensitive to light are called phototubes or more popularly termed "electric eyes." Since the electrical charge or current of these phototubes is extremely small, it is necessary to strengthen or amplify these small electrical charges. This can best be done by means of other types of tubes such as amplifier tubes or grid glow tubes.



One of a battery of wrapping machines equipped with photo-electric cell control used to wrap a medicinal product. Courtesy, Johnson Automatic Sealer Co., Ltd.

When grid glow tubes are energized from a constant potential source, such as a battery or rectifier instead of a transformer operating from an alternating current supply, their operation is radically different. For example, for any voltage applied to the tube there is a corresponding critical control voltage which, when applied to the grid and if exceeded, causes the grid glow tube to pass current, and from that instant the grid has no further effect upon the tube to either increase or decrease the flow of current. These tubes can be built to carry currents from a fraction of an ampere to several hundred or more and therefore can be used to operate directly power-consuming devices. If an electrical charge is impressed upon such a tube, and persists for only one ten thousandths of a second the tube will be triggered into operation, thereby passing current to energize a contactor which will operate to perform some desired control function. After the control function has been performed, it is only necessary to remove momentarily the voltage applied to the tube circuit in order to reset the equipment for another cycle of events. This type of equipment has been used, for example, to automatically sound an alarm if an improper label was about to be applied to bottles in an automatic labeling machine. Since the same size bottle was used for eight different shades of product and the labels were all identical except for the single word identifying the shade or color of the product, it was important that each label be carefully checked, preferably automatically since inspection by human eyes unnecessarily slowed up production or would increase inspection costs materially.

This problem was solved by arranging to code the individual labels on their reverse side by a dark colored printed spot approximately $^{3}/_{16}$ in. square located in one of eight different possible positions. The phototube and light source focused a small spot of light on the label in the label magazine prior to its application to a previously gummed bottle. Since there were eight different possible locations for the printed spot on the label, this optical system was arranged to be adjustable so that the spot of light would be focused upon a particular point on the label to be inspected. The equipment was arranged with the grid glow tube in an a-c. circuit obtained by means of a self-circuited rectifier. If the printed spot was at the point of focus of the light beam very little reflected light was received by the phototube. However, if the printed spot was not at that point, indicating an improper label, the reflected light from the paper to the phototube was greatly increased, thus triggering the grid glow tube into operating to

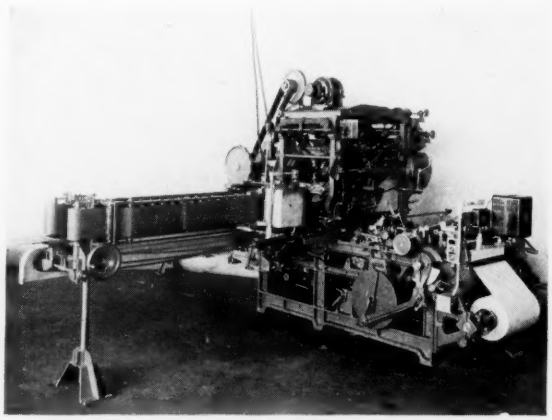
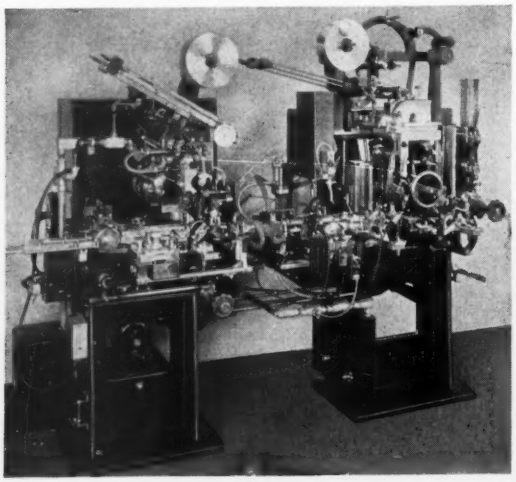


Photo-electric cell registration and roll feeding applied to equipment used for applying printed tight wrappers. Courtesy, Pneumatic Scale Corporation, Ltd.

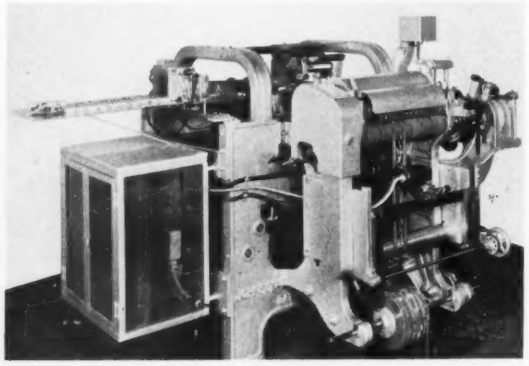

One of the finest packages of all time
THE SET-UP PAPER BOX
Ask Your BOXMAKER
CARTER'S
INFANTS' WEAR
Whitman's
Sampler
CHOCOLATES & CONFECTIONS
PREMIER
Demuth Milano
with the Hesson Guard
Wm. Demuth & Company
New York
STOKES & SMITH Co
PAPER BOX MACHINERY
PACKAGING MACHINERY
Summerdale Ave., near Roosevelt Boulevard
Philadelphia, U. S. A.
British Office: 25 Cornhill, London, E. C. 1

sound the alarm. The label magazine actuated by a mechanical cam was at rest or standstill for a period of approximately $^1/_{40}$ second just prior to application of the label to the previously gummed bottle. It was during this brief interval that the phototube and light source moving mechanically in synchronism with the label magazine inspected the label. In order to desensitize the equipment during motion of the label magazine a rotating cam switch was provided.



Gum wrapping machines equipped with photo-electric cell. Courtesy, Package Machinery Company

The increasing use of printed bags and envelopes of various materials such as paper, cloth or cellulose has created another problem—one of register. Where an operator is depended upon to synchronize the position of the printed design with respect to the cutting operation or finished product, production is unnecessarily slowed up and waste or spoilage is dependent upon the



Wrapping machine equipped with photo-electric control for handling printed waxed paper and transparent cellulose. Courtesy, Johnson Automatic Sealer Co., Ltd.

operator's untiring watchfulness under particularly trying conditions, especially since he must also compensate for the inevitable variable stretch in the paper or other material caused by the tension imposed upon it during the printing and bag making operations.

The Johnson Automatic Sealer Company built the first continuous moving web type of paper feed which incorporated photo-electric control of a roll of paper in a wrapping machine on the American market, seven years ago. Both continuous web controls and intermittent controls are used, there being places for them both in various types of wrapping machines. There are a number of packages which because of cost or protection, or possibly a combination of both, lend themselves to a printed waxed paper wrapping with control of the design, as compared to printed transparent cellulose. This type of wrapping is becoming more increasingly popular and the economies that are made by taking the printing from the carton, printed on a flat bed press, carrying it over to the roll of paper and printing it on rotary presses, is such that there is a distinct advantage



Liquid filling device equipped with photo-electric cell cut-off and electrically operated valves. Courtesy of Toledo Scale Company

with other factors favorable, in using a printed waxed sheet as compared to a printed carton with a waxed sheet over it made up of plain waxed paper. Wrapping machines are available for sealing the longitudinal seam on the narrow panel of the package, giving the two broad panels the full display value. This is particularly important because of the streaking or staining that comes from melted paraffin which if carried around to the narrow panel is not nearly so much in evidence.

It was impossible to use a full printed wax wrapper on a package until the introduction of these new electronic aids. All packages prior to this development which were wrapped in printed wax paper employed what was known as a running or repeating design. It is not possible economically to feed printed wax paper from a sheet feed.

These applications of new electronic aids are only typical of some of their present field of usefulness which, in all cases, have definitely increased production, reduced waste or spoilage and have made packages which could not have been produced otherwise except at prohibitive expense economically possible.

SECTION 11

PRINTING

pages 404–426

INK PROPERTIES FOR PACKAGES
AUTOMATIC PRINTING MACHINERY
LAMINATING, COATING AND EMBOSSING EQUIPMENT
LACQUERED PAPERS
VARNISHED PAPERS

REFERENCES

See all other sections for specific applications of printing.

INK PROPERTIES FOR PACKAGES

by DAVID DONOVAN

INK is often a minor consideration to a packager, but it should not be. It is true that ink is just one of many details which combine to make a package attractive with plenty of sales appeal, or mediocre with little of the sales appeal which makes customers say, "Give us that brand over there." Careful attention to all details, however, is a requisite to good packaging. Ink not properly selected for the purpose can spoil all the craftsmanship of the printer, the cleverness of the designer, and the skill of the paper maker, and so forth. Carefully chosen inks, on the other hand, add to the good work of the designer, and printer, and insure that their efforts will not go for naught because of ink failure.

Somewhat like the proverbial chain, a print job is as strong as its weakest ink. In many ways, ink is more important to package printing than it is to many other phases of the printing field. Certain requirements peculiar to packaging call for ink with very definite qualifications. Packages must often be printed with inks that won't rub or scratch, inks that will not fade when exposed to sunlight, and so on. If the package looks attractive that isn't enough. For the beautiful bright hues may fade when the package gets on the shelf, or the pretty colors may taint the sugar that the carton contains. So the selection of the right ink should be of major concern to every packager.

There are two reasons why the importance of ink to packagers is rapidly increasing in magnitude. First of all, color has come to dominate the packaging field. Color sells! There is no doubt of it. Every test shows that color beats black and white in attention value, in sales appeal across the counter, and in advertising and retention value. But the high attention value of color spotlights the deficiencies in a mediocre job. So it is essential that if packagers are to avoid the penalties of color improperly applied, they must pay strict heed to the ink they are using to produce their colored packages.

The second reason why ink and a knowledge of ink are growing more important to packagers lies in the ever-increasing influence that ink engineering and research are exerting on the printing picture as a whole. This means that packagers must keep abreast of the developments in printing inks; they must keep in touch with research done in ink manufacturers' laboratories.

The introduction of quick-drying printing whereby ink dries instantly upon application of heat is an example of a product of this research affecting the whole field of printing and the field of packaging as well. The old concept that printed pieces must be left several hours to dry after leaving the press has now been superseded by this new quick-drying principle. It promises to revolutionize many phases of package printing.

In the words of a man who helped to develop one of these quick-drying methods, the Vaporin process, "Perhaps its most fruitful field will be found in that part of industry where heavy films are printed on non-penetrating paper—for instance, in the printing of labels, bread wrappers, tight wrapped packages, parchments and so on. It opens the way to continuous production for the printer. He will not have to stop at the tail end of the press to wait a day or two for the drying of the paper, but he can go right on into his box making, or magazine folding, or other finishing processes."

Vaporin brings an entirely new concept to packagers. It is no longer necessary to wait for the ink to dry on printed pieces before feeding them into processing machines that cut, fold or stamp them into the finished carton. Printed material can be fed directly from the press into processing apparatus, for the ink dries in a split-second when Vaporin printing is used.

In addition to speeding up the printing and finishing of packages, Vaporin enables sharper, clearer, more attractively printed packages. Since the ink dries instantly, there is no chance for excessive penetration, smearing, or spreading to minimize legibility. Instead, Vaporin printing produces sharp, fine looking results—results that may be reflected in packagers' sales columns, for better looking packages usually mean higher customer acceptance. Another ink development directly affecting the packaging field, is the introduction of alkali-proof ink for soap wrappers.

Alkali-proof printing could be accomplished with no natural ink vehicle, but ink research men reasoned that a synthetic ink could solve the problem. They produced two different types of ink. The first came as a connecting link between regular ink and synthetic ink, having a soap-proofness far in excess of anything known so far; and the other left all tradition behind, going completely into synthetic inks which were indestructible by alkalies and could be printed and dried by the Vaporin process. A number of large soap makers are already using this method; in one concern alone last month 16,000 lbs. of the synthetic ink was used.

Not long ago the first new blue pigment in over 100 years was discovered in Europe. In America, inks have been compounded from this new pigment. Now we have the first blue in history fast to both alkalies and acids. In addition to this fastness, inks formulated from the pigment have remarkable qualities of permanence, and tests show that they will not fade even after the equivalent of six months in sunlight. Fading begins only after the equivalent of nearly a year of artificial sunlight exposure. This ink's outstanding properties of fastness and permanence, coupled with its high tinctorial


SCUFF PROOF
DUST AND ALKALI PROOF
MOISTURE PROOF



The reverse side of this page shows how the simple application of lacquer steps up colors and produces greater beauty and brilliance.

SCUFF PROOF · DUST PROOF MOISTURE PROOF

LACQUERED PACKAGES WITHSTAND ABUSE

YOU might as well try to blow dust through a sheet of plate glass as into a lacquer-coated package. It just can't be done. *Lacquer is dust proof.*

Lacquer-coated cartons, packages and paper wraps are also as tough and resilient as a football. Kick 'em around as much as you like and they're far more apt to score than scar. *Lacquer is scuff proof.*

Nor are products protected by lacquer-coated packages affected by humidity. They keep crisp, fresh—even in south sea dampness. *Lacquer is moisture proof.*

In other words, lacquered packages withstand abuse—take it on the chin. And, as every sales manager knows, there's usually plenty of package abuse to take via the factory—dock—box car warehouse—truck and store.

Moreover, lacquer costs little.

It can be applied either before or after printing.

It preserves both the *package* and the *product.*

Its glasslike brilliance (so effective on magazine covers, inserts, posters, etc.) steps up package colors to sparkling allure—catches the buyer's eye and says, "this product is fresh from the factory."

Ask your printer or package maker about lacquer-coated papers and packages. Also turn to the reverse side of this page and see what glittering lacquer can do to half-tones!

COMMERCIAL SOLVENTS CORPORATION

NEW YORK CENTRAL BUILDING, NEW YORK, N. Y.

strength, and appealing shade, will make it a popular package ink. It is ideally suited for cartons or containers which are used for corrosive substances.

Scientists in ink laboratories have searched for many years to find a substitute vehicle for linseed oil. Such a vehicle was recently discovered, and it made possible a long line of inks called "Lithox" or "Holdfast." These inks possess many remarkable faculties, many of them important considerations in package printing. In lithography, particularly metal lithography, "Lithox" inks possess the advantage of being water-resistant, and they contribute water-resistant properties to the pigment. Films printed with it will take an overprint or coating varnish while the ink is still wet, and the combined films may be baked together without producing ribbing, crawling, or other distortions. The composition dries chiefly by polymerization, and therefore, the final and permanent stage of hard film formation is achieved at the end of the drying treatment. "Lithox" produces harder, more adherent and tougher films, when used for metal lithography, as opposed to linseed or china wood oils. For packagers who print on metal containers, the inception of "Lithox" opens the way to better looking and more permanent metal printing.

The recent development of aniline ink opens new possibilities to the packaging field. A line of transparent analine dye inks and a line of pigmented inks which can be printed on an aniline press mean that packagers now have at their command two new distinctive ink lines which bring them advantages previously unattainable.

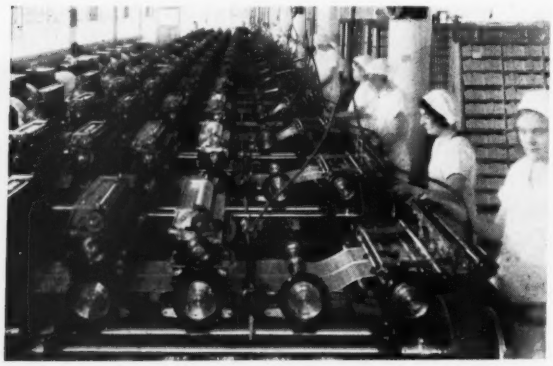
Significant to packagers is a new means for matching and standardizing color. This tool of science is called the Recording Photoelectric Spectrophotometer, or more intimately, the "Specter." Its operation depends chiefly on the ability of the photoelectric cell to turn light waves into electrical energy, although it utilizes several less familiar principles of optics. In three minutes after a sample of any colored material is placed in it, the apparatus turns out a chart showing precisely how much of each wave length of light is reflected by the sample. Each color shade, and there are millions of them, is thus represented by its own peculiar graph curve.

PROPERTY TESTS OF COMMON PIGMENTS USED IN PRINTING INKS

Pigment	Indoor	Outdoor	Paste	Alcohol	Acid	Alkali
			Natural Inorganic Group			
Raw Umber	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Raw Sienna	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
			Artificial Inorganic Group			
Burnt Umber	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Burnt Sienna	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Cadmium Red	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
English Vermillion	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Orange Mineral	Good	Poor	Excellent	Excellent	Good	Good
Chrome Yellow	Excellent	Excellent	Excellent	Excellent	Good	Poor
Cadmium Yellow	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Zinc Yellow	Excellent	Poor	Fair	Excellent	Poor	Poor
Chrome Green	Excellent	Excellent	Excellent	Excellent	Excellent	Poor
Iron Blue	Excellent	Excellent	Excellent	Excellent	Good	Poor
Ultramarine Blue	Excellent	Fair	Excellent	Excellent	Poor	Excellent
			Organic Group			
Bismarck Brown	Fugitive	Poor	Poor	Fair	Poor	Poor
Maroon	Excellent	Fair	Excellent	Good	Excellent	Poor
Madder Lake	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Rhodamine	Fugitive	Poor	Poor	Poor	Fair	Poor
Rhodamine (Perm)	Good	Good	Excellent	Poor	Excellent	Good
Eosine	Fugitive	Poor	Poor	Poor	Poor	Poor
Lithol Rubine	Excellent	Poor	Fair	Good	Poor	Poor
Lithol Red	Good	Fair	Excellent	Good	Excellent	Poor
Scarlet Pulp	Fair	Poor	Poor	Excellent	Poor	Poor
Pigment Scarlet	Excellent	Fair	Poor	Excellent	Poor	Poor
Para Red	Excellent	Excellent	Excellent	Poor	Good	Excellent
Toluidine	Excellent	Excellent	Excellent	Fair	Excellent	Excellent
Red Lake D	Good	Fair	Excellent	Good	Poor	Good
Red Lake C	Fair	Fair	Excellent	Good	Excellent	Fair
Fire Red	Excellent	Excellent	Excellent	Fair	Excellent	Excellent
Permatone Orange	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Orange II	Fugitive	Poor	Poor	Good	Poor	Poor
Hansa Yellow	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Tartrazine Yellow	Poor	Poor	Poor	Excellent	Poor	Poor
Quinoline Yellow	Poor	Poor	Poor	Fair	Poor	Poor
Naphthol Yellow	Poor	Poor	Good	Excellent	Poor	Poor
Acid Green Lake	Fugitive	Poor	Poor	Good	Poor	Poor
Malachite Green (Perm)	Good	Fair	Excellent	Good	Excellent	Excellent
Brilliant Green	Good	Fair	Excellent	Good	Excellent	Excellent
Setoglaucine	Good	Fair	Excellent	Fair	Excellent	Good
Patent Blue	Fugitive	Poor	Poor	Excellent	Poor	Poor
Methylene Blue	Fair	Poor	Poor	Excellent	Poor	Fair
Induline Blue	Fair	Poor	Excellent	Fair	Good	Good
Indigo	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alkali Blue	Excellent	Fair	Excellent	Poor	Excellent	Fair
Victoria Blue	Good	Good	Excellent	Poor	Excellent	Excellent
Methyl Violet	Fugitive	Poor	Good	Poor	Poor	Poor
Methyl Violet (Perm)	Good	Good	Excellent	Fair	Excellent	Excellent
Alizarine Purple	Fair	Poor	Poor	Excellent	Poor	Poor

AUTOMATIC PRINTING MACHINERY

THE PROBLEM of having available proper equipment to efficiently place upon labels and containers, designating information as to the contents of the package, has long been a difficult one to solve. To producers of merchandise that package that merchandise, and have to designate on the exterior of the package a thorough de-



Chambon multi-color presses at a food packing plant

scription of the contents, i.e., color, specifications of size, quantity designation, style number and a description, the following procedures available:

The hand written description, next the rubber stamp method soon followed by the hand operated metal stamp and, today, power driven combined printing and marking equipment.

by ALFRED A. MORSE

THE DEVELOPMENT of automatic printing machinery for use in manufacturers' private printing plants has paralleled the development of other automatic machinery used in packaging operations. As designed today, such equipment fits into the plant production line and turns out printing as required, on a straight line production basis. The quality of the printing, as well as the cost, is under the complete control of the manufacturer using such automatic printing equipment.

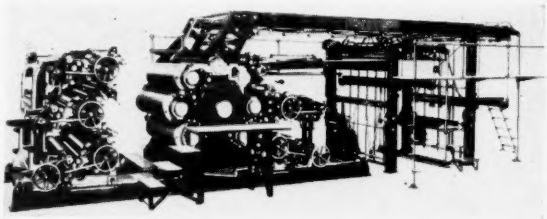
Automatic printing machinery falls into two general classifications:

(1) Machines in which the paper is fed through in sheet form.

(2) Machines in which the paper is fed through in web form from a single continuous roll.

The first classification includes presses such as the Claybourn. This is a multi-color sheet-fed rotary press available in two sizes and designed to print in from one to five colors. These presses can be started quickly and operated at high speeds. While this type of press requires a fairly large amount of floor space, it effects considerable economies due to the high speeds at which it can be operated and the large size of the sheet which it will take. The manufacturers of this press also offer a five-color high-speed web label press which takes the paper in rolls, prints it and delivers it in web form.

The second classification includes presses such as the New Era, Chambon and Champlain printing machines. The first operates with an intermittent motion, the latter two operate continuously. As the paper comes to rest from time to time under the units of the New Era type of press, it receives successively the different colors from



Claybourn multi-color rotary press

these units while the paper is at rest. After being printed it passes through the various special units such as the perforating, cutting, scoring, punching, etc.



Battery of Chambon presses at plant of paper container manufacturer. Printing and cutting of container blanks are performed automatically and completely on these machines

In Defense of Beauty



DUPLEX



DOPLEX

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TRIPLE FOLD PROTECTION

"DOPLEX," the finish on this printed piece, does more than "snap up" colors and lend brilliant overtones and highlights to blacks and whites. It interposes an invisible armor plate between printed matter and all the elements that threaten to mar or destroy it.

FOR "DOPLEX" is moistureproof, dustproof, soil proof, scuffproof, crackproof. Dust and grime that settle on its glass-hard surface can be easily wiped therefrom with a damp cloth.

Such facts suggest almost infinite applications for "DOPLEX." For Labels, Box Coverings, Cartons. For Covers of House Organs, Advertising Booklets. Covers of Sales Portfolios and Manuals. Recipe Books, Posters, Calendars, Oil and Grease Charts, Menus, School Books, Children's Color Books, Calendar Cards, Rate and Price Schedules, etc. Dobeckmun's Packaging Design experts stand ready to advise on special uses, novel combinations.

"DOPLEX" can also be counted upon to improve every printing process; letterpress, intaglio and planograph in all their varieties. Stands up perfectly under embossing, stippling and other finishing processes.



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CRACKPROOF

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Ask your printer for further information, prices, etc., or write direct to us.

Lustrous Beauty

An Invisible Armor Plate

PRODUCT OF

THE DOBECKMUN COMPANY

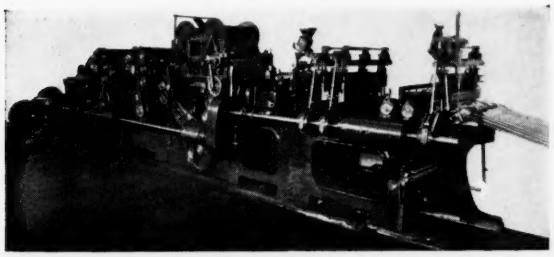
World's Leading Converters of Cellulose Films

Other Products: Bags of "Cellophane" Printed or Plain; Printed Sheets and Rolls of "Cellophane;" Pouches of "Cellophane" for Cigars and other Products. "Dura-Glo" Hammermill Cover "Doplex" Fabrics and Papers

CLEVELAND, OHIO

With the Chambon and Champlain printing machines, the paper is furnished in rolls and travels through the press in a straight line. All printing operations are performed successively by cylindrical, chrome-plated bronze or steel plates good for as many as 100,000,000 impressions. All mechanical motions are rotary to avoid vibration and noise. Specially designed ink fountains supply the ink. Any number of colors may be used and both sides of the paper may be printed at the same time. These machines can be adapted for high-speed letterpress printing, dry offset, or gravure and combinations of these methods can be effected. The same machines perform all supplementary operations, such as scoring, creasing, embossing, numbering, perforating, slitting and rewinding, sheeting, dieing out to shape and other supplementary operations such as lacquering, etc.

Chambon and Champlain machines can be equipped with a standard unit to apply lacquer to the printed surface of the paper or board. This unit is mounted in line with the printing and fabricating units and is driven from a common shaft. The lacquer unit is of unique construction, extremely compact. It permits the use of lacquer of high solid content and eliminates considerable loss of solvents. A large amount of lacquer is applied to the surface and then the excess removed by passing through two rolls spaced according to the thickness of coating desired. The printed web, after being coated with lacquer, passes through a dryer where heated air drives off the solvents and leaves a finished, dryed coating. Upon leaving the dryer, the web proceeds to a cutting, die-cutting, or rewinding unit and the finished work is delivered ready for use.



New Era printing press

The manufacturers of Chambon and Champlain machines have developed a method of applying transparent cellulose to paper or board. A standard machine, equipped with a laminating unit, can apply a sheet of transparent cellulose directly on the printed surface of paper or board in one continuous operation. Special adhesives have been developed to allow application over wet inks and to prevent wrinkling. Various materials such as glassine, parchment and book papers can be combined with other paper and boards as required.

by HOWARD G. SAWYER

"THREE POINT" presses manufactured by U.P.M.-Kidder Press Company for printing all kinds of wrapper materials—transparent cellulose, wax-paper, glassine,

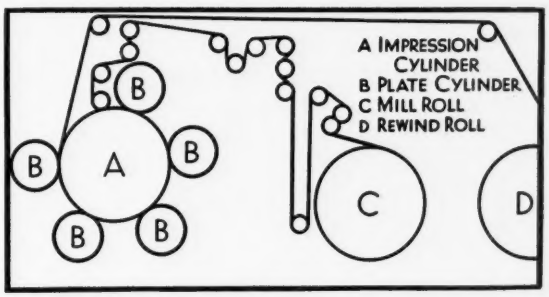


U. P. M.-Kidder 24 in. x 36 in. press printing chocolate bar wrappers at plant of Hershey Chocolate Company

foil, parchment, cardboard, gummed paper, etc.—may be roughly classified into first, "arc" type, and, second, "stack-type." Arc type construction has several plate cylinders grouped around a single impression cylinder; stack-type has an individual impression cylinder for each plate cylinder. The advantages of doing multi-color printing on these presses is either high speed on long runs or the opportunity to "gang" a number of short runs, thus saving on machines, plates, power and maintenance, to say nothing of being able to promise quicker delivery.

Nine out of every ten bread wrappers, it is estimated, are printed on a Kidder Three Point press. The stack type prints a goodly share of them. Considering that the ordinary loaf of bread requires a wrapper 18 in. × 20 in., a 36 × 63 in. Kidder press printing four colors at a web speed of 30,000 ft. an hour turns out enough wrappers in sixty minutes for five thousand dozen loaves.

This same press can also be used for fancy papers, cake bands, box wrappers, certain types of labels, counter wraps and all sorts of printing taken from the roll and rewound. It may be operated as a one, two, three, four or five-color press; each color has a separate and complete inking mechanism, consisting of four 4-in. form rollers and the necessary distributors and vibra-



U. P. M.-Kidder five color roll-to-roll arc-type press

tors. Separate color control makes it possible to divide the fountain for printing additional colors.

These presses are built in a variety of sizes and types, printing on webs of paper in widths up to (like the size just described) 81 in. There are 75 sizes of Three Point presses for printing bread or roll wrappers or foil.

Now that it is possible to get a higher perfection of accuracy in printing plates, "arc" type construction has become popular for high-speed multi-color printing on wrapper materials. For example, a 24 in. × 36 in. all-size adjustable rotary prints between 6000 and 7000 sheets an hour up to six colors. The press is fed from a web and fly-delivers flat sheets collected in groups of five. Cutters may be set to deliver sheets in any length from 12 in. to 24 in. by 1/4-in. variations. An additional roll shaft is ready whenever it is necessary to use an extra web for backing up, as when printing cellulose products or tin foil. A larger size, 36 in. × 48 in., prints two, three or four colors on novelty wrappers, delivering in single sheets to automatic lowering pile delivery at the rate of 5000 to 6000 sheets an hour.

The following developments illustrate with what justice Kidder machines are called Three Point presses—for proper distribution of ink, accuracy of the impression and control over the paper.

Accurate and minute control of color printing is achieved through a continuously operated fountain roll and a ductor which is adjustable for more or less dwell on both fountain roll and associated ink drum. This adjustment can be made while the press is running. The amount of vibration on drums is also adjustable.

A patented form roller transfer and setting device eliminates roller gauges and makes it possible for the operator to walk into the press to adjust form rollers to vibrators and plate cylinders at will. No roller gauges are needed—there is no necessity for bumping. With the inking mechanism racked back, the form rollers are set radially to the cylinder, after which the inking mechanism is racked up into operating position, a lever repositioned and the frames rolled back again, taking the form rollers with them. Then the form rollers can be set circumferentially to the vibrators without disturbing the radial adjustment to the plates.

A new mill roll and paper control unit on web presses relieves the feed rolls of having to pull the paper from a heavy tension. This unit delivers to the press just the amount of paper required and at the same time so controls the web that accurate side register is maintained. A new method of controlling the tension at rewinding ensures an evener-wound roll and protects uniform register at the press. An additional roll over which the web passes before reaching the rewind roll automatically adjusts the tension as the speed of the rewind roll slows down. Added to the link-belt rewind mechanism, this new automatic tension control roll relieves the operator of the necessity of constantly adjusting the tension.

An arc type press for a roll-to-rewind product, installed by Kalamazoo Vegetable Parchment Company, is a 44 in. × 66 in. 5-color rotary, running at a speed from 500 ft. to 700 ft. a minute. The five color mechanisms surround a common impression cylinder whose diameter is twice that of the plate cylinder.

Another press developed within the past few years is a three-color, single-impression offset press, which uses arc type construction being web-fed and delivering shuts to an automatic lowering pile. It takes a maximum size sheet 36 in. × 48 in. and has an all-size cut-off down to 20 in. Fountains, ink rollers, plate and blanket cylinders are all readily accessible for adjustment, change, makeready, etc.

The use of heavy colors on packaging materials inspired the development of the bow principle for stack-type presses. By a curving of the cylinder arrangement, it has been possible to place the compensator rolls on the back of the web and still avoid wiping from plates onto the sheet. Thus, there can be no smearing of ink on the paper from compensator rolls—no more necessity for continually cleaning compensator rolls. Nothing touches the ink side except the plates.

U.P.M.-Kidder also manufactures bronzing equipment, including the high-speed Golden Arrow bronzer whose construction is based on the "straight-line" principle. This method allows the complete bronzing and cleaning process to be carried on without bringing the face of the sheet into contact with any part of the machine not actually engaged in bronzing. All sheets to be bronzed travel through the machine with no turns on rolls or cylinders. Positive gripper control, achieved by a patented method, makes possible more accurate timing of laying the bronze and the use of rolls for dusting along the natural flow of the sheets. It makes the machine equally efficient on heavy cardboard or light label stock. A gripper-fitted conveyor belt takes work from almost any press at maximum press speed.

Bronze is fed to the work from a large capacity fountain equipped with separators allowing accurate control of feed width. The feed mechanism is readily adjusted to any desired length of feed, and the amount of powder released from the fountain is accurately controlled according to the needs of the job. An automatic tripping device stops the bronze dust feed when no sheet is fed to the machine, and a clutch mechanism built into the conveyor allows stopping of the feed of sheets to the bronzer.

The cleaning mechanism, a Turbo-Clone, makes use of a large volume of air, exhausted, after use, into the room through a filter at low velocity. The manufacturer claims that 96 per cent of the bronze powder is stopped by the Turbo-Clone, leaving only 4 per cent for removal by the air filter. All cleaning rolls have an independent motor drive, assuring thorough buffing of sheets regardless of the speed of the machine itself. Ample air allowance is made for each roll to ensure keeping the chambers free from bronze. The Golden Arrow is fitted with a back dusting roll in a chamber of its own, and the conveyor belt is provided with a cleaning roll to make absolutely certain of clean backs on sheets. The bronzing pads are in a compartment of their own, not connected with the exhaust system, assuring most economical use of bronze dust.



Fresh BEAUTY

• Fresh beauty is always appealing . . . but unless well preserved nothing fades more quickly. This is particularly true of packages, labels, cartons, displays and all types of printed matter when subjected to day after day exposure on dealers' shelves or in stores. In the highly competitive markets of today, the eye-appeal of fresh beauty (factory freshness of container) is nearly as important in making sales as the product itself, and in many cases is the deciding factor. EGYPTIAN PAPER LACQUER will protect your package and do much to increase and maintain its factory freshness.

There are grades of EGYPTIAN PAPER LACQUER for standard machines, now used for the application of ordinary spirit varnish, as well as special formulations for use with web coating equipment . . . Also colored paper enamels for box wraps and fancy papers.

We invite your inquiry for further details

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ROCKEFELLER CENTER NEW YORK, N. Y.

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FRED'K H. LEVEY CO., INC.

PHILADELPHIA
NEW YORK
CHICAGO

LAMINATING, COATING AND EMBOSSING EQUIPMENT

by FRANK W. EGAN

THE CONVERTING of paper for containers, cartons, food wraps, labels, cover paper, catalogs, inserts and transparent wraps can have a decided effect in the sale of any product. A package to command attention must be original, for today, original ideas are building sales and drawing the attention of a large consumer market. The design of the container or package is first carefully decided upon, colors are selected and the type of package to meet the conditions under which the product has to be handled in its path from the manufacturer to the consumer, is approved. It may be necessary that this package be a can, a bottle, a carton, that has to be moisture-proof.

If it is a moisture-proof carton than we step into a combining operation where several layers of chip board combined with silicate or asphalt are used, and the combined product lined with glassine or regular white stock. In some cases the outside label may be a coated label paper.

Then comes the question of whether the wrapper should be waxed or finished with a high gloss lacquer, and in the printing of the label whether it should be of the intaglio, rotogravure, lithograph or regular surface print style, and in a good many cases we find the labels or wrappers embossed, and every so often today, we come across a wrapper that is creped. More and more metallic coated papers are being used. These may be of the regular Argentine type, or they may reach into the lacquer, gold and silver coatings, or to a combined aluminum foil paper back wrapper. All of these products require precise operations. For instance, a foil used must be treated in such a manner that it will not tarnish. In the application of the foil to a paper base, the adhesive used must be of such a character that it does not effect the foil, or curl the paper base. The application of lacquers to obtain high gloss should be of high viscosity, thereby using very little solvent. This, in itself, keeps the cost down, and produces quality finish.

Machinery is being constructed today, for these operations, and this type of machinery could not have been produced years ago when the better kinds of steels were not available; and further, it was impossible in those days to grind rolls with any fine degree of accuracy; further, today it is possible to build into equipment micrometer adjustments that meter coatings to one-ten thousandths of an inch. If we keep in mind that a coating one-ten thousandths thick will apply one pound of solid lacquer to a ream base, having an area of 3000 sq. ft., which is equivalent to a ream of paper 24 by 36—500 sheets, we can appreciate the value of better equipment.

Years ago, applying a coating meant applying a clay coating, and it was put on with a round brush and brushed out with reciprocating brushes. This was a very easy operation, and for years this method was followed, and even today, there are mills still applying coating with a round brush, but in other mills where they have improved their operating conditions, they are applying their coatings through the medium of rolls ground within one or two-ten thousandths, and these coatings doctored through the medium of a chromium plated roll and run at certain speeds that produce a smooth finish. Blending finishing brushes are used for releasing of air and gases formed in the mixing and application of the coating. In using equipment of this type they have eliminated the round brush.

In the application of lacquers, varnish, shellacs and some of the latex coatings, knife and roll coating machines are necessary. The knife type with special type doctors can be used. However, to a great extent the reverse roll type is used. In some cases where coatings are light in character and will not be changed, coatings can be applied through the medium of engraved printing presses. How often have we heard it said, that a finished coated paper can be no better than the base stock that is used in the coating operation? Well, to a certain extent that is true, but with the modern equipment used today, it is possible to cover up a good many defects in the base stock and produce a finished product that is of high quality. Dull surfaces can be improved considerably through the use of lacquer. Lacquer was rather difficult to handle until the reverse roll type of coater was developed. All coatings have their own particular surface tensions, depending upon their viscosity, and this tends to produce ribs in the application of the coatings; but these coatings, using the proper viscosity and of high solid content, can be applied on a reverse roll coater.

The printing of the wrapper, label or container, involves the question of whether intaglio, rotogravure, lithograph and surface, either direct or off set, should be used, and while we are on the subject of printing, it would be well to consider the part that the so-called aniline printing has played in the American market, the past few years, as we all know this to be nothing more than a staining process, and it enjoyed some popularity throughout Europe. It was introduced in this country by a manufacturer of European equipment, with the result that quite a few machines of this type were installed—but it was found that to operate equipment of this type it was necessary to use a fast drying ink having a high staining quality. Today we find considerable advance made in this type of printing, for in place of the machine that was imported into this country, there are manufacturers using regular printing machines having the seven or nine roll distribution, applying thick concentrated inks that are quick drying, and that are colored by pigments that are fast to light. Lacquer

fast drying inks are being used to a great extent on rotogravure and intaglio printing machines. For the sake of clarity, by intaglio machine we mean a printing unit in which each printing section is equipped with a furnishing roll—and by rotogravure press we refer to a printing machine where the print roll is run directly in the fountain. To produce vivid colors on intaglio and rotogravure presses, using lacquer or slow drying inks, it is necessary to use dryers in between each printing nip.

In the developing of these new style printers, improvements have been incorporated in these machines, whereby it is possible that the operator can make radial, and crosswise adjustments while the press is in operation.

In the finishing of some label stock, waxing is found desirable, and where a high gloss is required, this can be obtained quite readily through the use of a water bath, for when the hot wax strikes the cold water it produces a smooth finish having a high gloss. This is particularly true of bread wraps and transparent wraps for cakes or other bakery products.

Where gummed paper is used we find that the equipment in operation today, is of a heavy character that is fitted with rolls, that will apply accurate coatings so that the gummed stock can be run in Precision type of teletype machines that are today used for telegraphic work. Special attachments are built into these machines for the handling of glues or dextrine mixtures.

In some containers we find crepe paper. This may be an ordinary water crepe stock or it may be of a heavy kraft asphalt coated nature. All of these machines are running at high speeds today, speeds that were thought impossible years ago. For instance, waxing machines are operating at speeds from 600 to 1000 ft. per minute; printers 200 to 600 ft. per minute, depending upon the kind of printing and type of ink used.

Laminating Machines

The particular type of machine best adapted for laminating work will vary with the various materials to be combined and the adhesive to be used. In the packaging field the materials are generally boards with coverings of book paper, glassine, kraft, cellophane or foil, while the adhesives consist of asphalt, paste, silicate, lacquer or thermoplastics.

One of the earliest combining machines is that used for combining two or three ply of board with paste for making high grade Bristol boards and card boards. A snappier and firmer board is formed by pasting than the same thickness of board would be if made on a cylinder machine. Cwing to the difficulty of driving the moisture through the board, generally not over three ply are combined at one time. A second pass with one or two additional ply added is generally used where more than three ply are required. For this work the machine consists essentially of a heavy set of chilled iron rolls for accurately metering the paste and pressing the plies together, the drying being done on a tier of cylinder driers. This type of machine is adaptable for either paste or silicate of soda.

In the combining of caddy board, commonly used for folding boxes and similar products, two or three ply of board combined with hot asphalt is used with outside liners consisting of book, kraft or glassine, fastened with paste or silicate. The use of one or two layers of asphalt in the center of the board provides excellent waterproofing qualities, while the outside liners attached with paste give the proper color and finish to the surface for appearance and printing. The hot asphalt in the center of the board also provides most of the heat, in an ideal location, to dry the paste or silicate liners and this combination will permit of speeds around 400 ft. per minute. To obtain these speeds particular care must be used in the design of the asphalt units to insure a thin coating of asphalt, generally running about 10 lbs. to the ream, and the application of this coating to the board without reducing the caliper of the board.

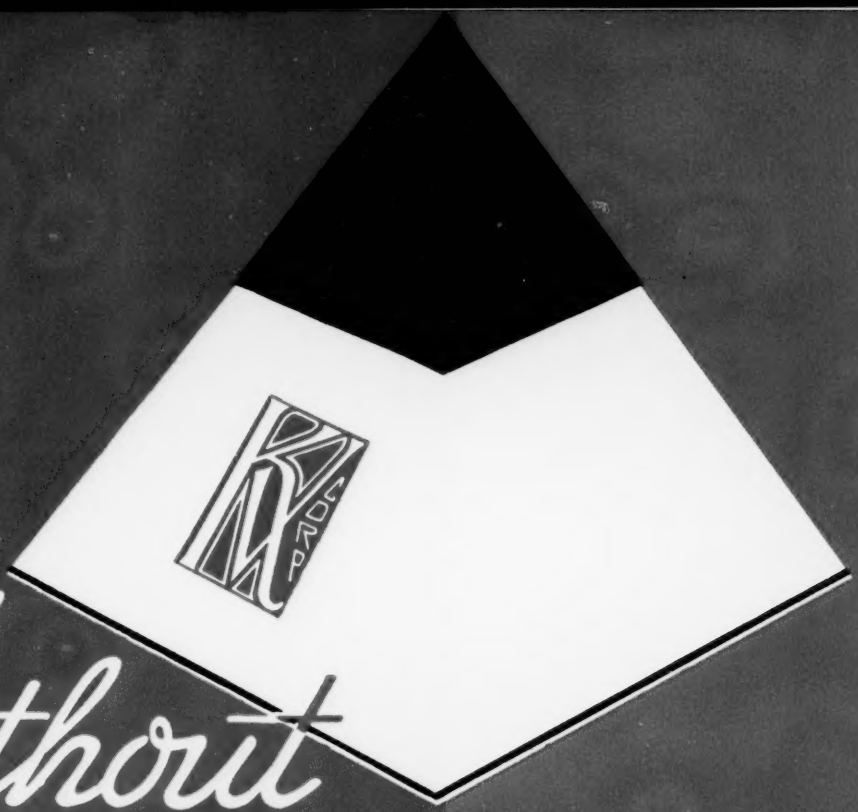
The paste or silicate units are designed for a uniform and minimum application of adhesive with provision made to eliminate expansion wrinkles in the cover stock before combining. Calendering and waxing operation is sometimes provided, also drying and cooling means, after which the caddy board is generally passed directly to a sheet cutter which trims and cuts the board into flat sheets, ready for the printing operation.

The rapid increase in the use of transparent cellulose and metal foils in the packaging field, with the development of lacquer, latex and thermoplastic adhesive for use with these materials introduces still more conditions to be met in laminating these materials with paper or fabric. In the case of the transparent cellulose materials it is essential that the adhesive be applied in a smooth, thin coat without ribbing, as ribbing or other defects in coating will show through the cellulose and spoil the effect of the lamination. Similar principles apply in foil lamination but other conditions enter here due to the rapid expansion of foil on application of heat, which must be guarded against, particularly in the use of thermoplastic cements.

Coating Machines

In the packaging field the principal interest in coating machines is in brush coaters, roll coater and reverse roll, although knife coaters are used to some extent in the decorative paper field. The principal use of brush coaters is in the clay coating field as practically all clay coated papers are made on brush machines. On a standard arch bed machine the color is applied to one side of the web of paper by a cylindrical brush. The machine is equipped with seven flat brushes which oscillate across the sheet and spread the color uniformly over the web. A suction belt follows the brushes and holds the paper taut while passing under the brushes. After coating, the paper is festooned on long automatic racks, where it is dried to between five and six per cent.

In addition to the paper coated one side only, a large quantity of paper is clay coated on both sides on what are known as double coaters. Here the color is applied



Without Lamination

ITS ONLY ANOTHER PACKAGE

Sound basic design is of the utmost importance. But, frankly, haven't you seen dozens of packages that complied with all the rules and still failed to register?

More often than not, the failing lies in a dullness of tone...sometimes accentuated when the package is marred, soiled or faded while awaiting sale.

And that's where LAMINOID comes in.

For Laminoid, as you can see by this sample, is a new type of package finish...infinitely superior in toning up a design, in getting and holding attention, in drawing eyes as it draws the light and finally, in preserving the beauty and sales-appeal built into the package itself.

Laminoid becomes an integral part of your package. It does not scuff, stain, peel or wrinkle. Yet you will be surprised to find out how little it costs to give your product this added sales impetus. Write, now, for full details and information relative to your own problem.

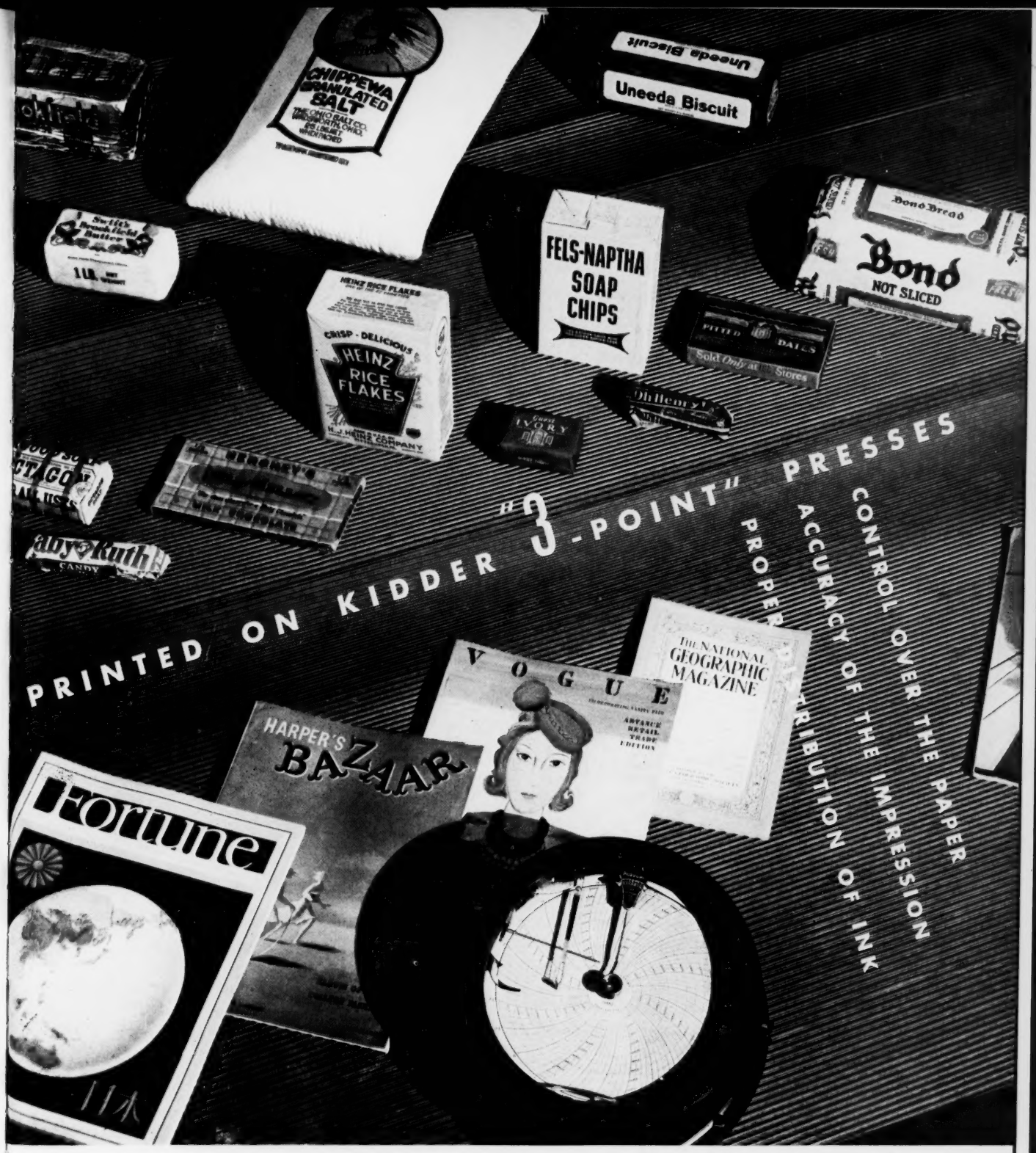
NOTE: The use of Laminoid is not restricted to packages. It is equally effective on counter cards, displays, catalogs, booklets, posters, folders and all other promotional, advertising and printed matter.

BERT C. MILLER—Sales Representative
901 Woolworth Bldg.—New York, New York

SHOUP OWENS, INC.—Processors
1100 Adam Street—Hoboken, New Jersey

Inks furnished by **FUCHS & LANG M'F'G CO.** • *Paper furnished by* **WEST VIRGINIA PULP & PAPER CO.** • *Lamination by* **SHOUP OWENS, INC.**





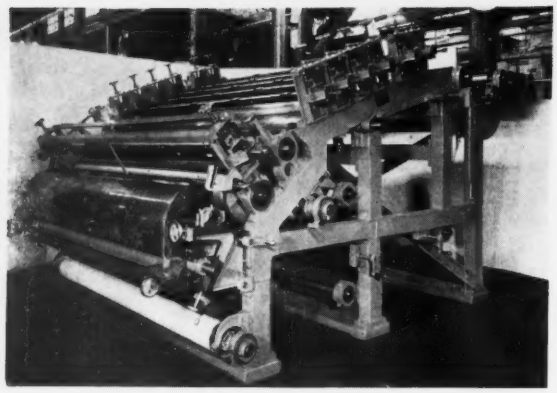
The single-color pages of America's finest magazines and many of the most famous packages on America's shelves meet the public eye with printing performed by Kidder Presses. 90% of all wax bread wrappers, 75% of all bronzed work, 60% of all vegetable parchment, and 20% of all transparent cellulose wraps are printed on Kidder machines.

Send it to Kidder

U. P. M. THREE POINT PRESS KIDDER

when you have a problem in extending your scope of package printing and widening your profit margin. Write us for information on standard machines for printing wrappers, cartons, labels; bronzers; special machines for individual printing jobs. Address U. P. M.-Kidder Press Co., main office at Dover, N. H., or call the New York, Chicago or Toronto office, or Harry W. Brintnall Company on the Pacific Coast.

3830



Standard arch bed coating machine

to both sides of the paper by a roll application. The paper then passes between two banks of brushes, one bank of six brushes above the paper, the other bank of six brushes below the paper. All the brushes are oscillating on the paper, the top and bottom brushes in all cases moving opposite to each other and smoothing the color. The paper is then floated on an air blast for a distance of 150 to 175 ft. until the lower side of the sheet is sufficiently dry to festoon without marking the paper.

Straight roll coaters are used in the packaging field largely for the coating of gum papers, such as gum labels, gum tape and stay papers. The gum is metered by a pair of accurately ground chilled iron rolls. The web then passes under a smoothing roll to smooth out the find ridges left in the gum by the roll application. The paper then passes around an arch and drum driers, where it is dried by the application of hot air to the gum surface. Depending upon the design of the drier, the speed will be from 200 to 400 ft. per minute.

The development of the quick drying nitrocellulose lacquers has forced the development of an entirely different type of coater as neither the brush nor roll type can be satisfactorily used with quick drying lacquers. Owing to the speed of drying the lacquer quickly dries on the brushes, causing hard lumps which mark and spoil the coating. If the usual roll application is used the material sets too quickly to permit the ridges to flow out or the use of a smoothing roll.

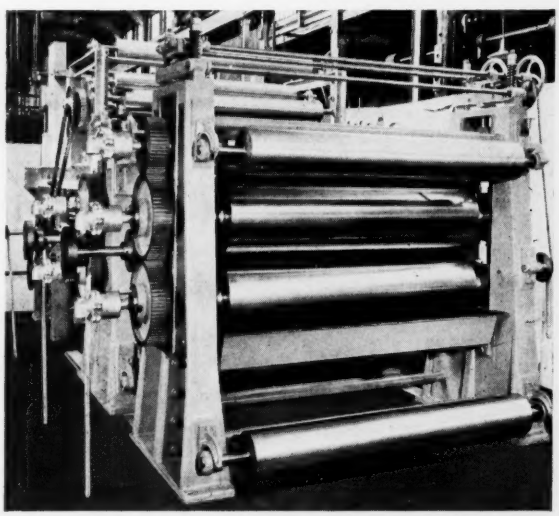
To overcome these difficulties a reverse roll coater has been developed. This consists of a three roll head, all rolls running in the same direction or reverse to each other at their control points. By proper combinations of speed and opening, a smooth, uniform coating can be formed on the transfer roll, which transfers the coating to the paper without ridges or marks. This unit is essential for lacquer coating in the decorative paper field, such as gold, silver colored, or lustre effects with lacquer vehicle, or for the application of a clear, transparent high gloss lacquer coating.

Embossing Machines

Embossing is the art of fashioning a surface by raising or depressing a figure or design by the use of pressure. This may be accomplished by several methods. The most simple method is to use a metal stamp. On the stamp or die is cut the required design. This may consist of cutting the surrounding metal away from the raised portion of the design so that when the die is impressed on the material to be embossed, this raised surface will press the material down at these points so that the design will be in relief on the under side. The material must, of course, rest on a support underneath, either of metal with depression cut so as to exactly coincide with the raised portion of the die, or it may be of some soft material that will allow the die to press the embossed material down into it. This is the whole principle of embossing, yet wonderful results are accomplished from elaboration of this simple principle.

Many kinds of embossing are still done with the flat embossing press, such as metal embossing, stationery, name plates, and in general, anything in sheets which may only be embossed on a part of the sheet. There are some materials required to be embossed in the sheet as well as the web, which requires tremendous pressures and a long period of "dwell." On such materials the flat bed embossing press is used. For many uses, however, the flat embossing press is limited. The most serious objection to a press of this kind is the very slow speed at which the material can be embossed. It was to meet the ever present demand for speed that the roll embosser was designed. The results obtained from such an embosser are best illustrated by the beautiful embossed wall papers, fancy paper, artificial leather, paper napkins and such other processed materials now on the markets and available for many uses.

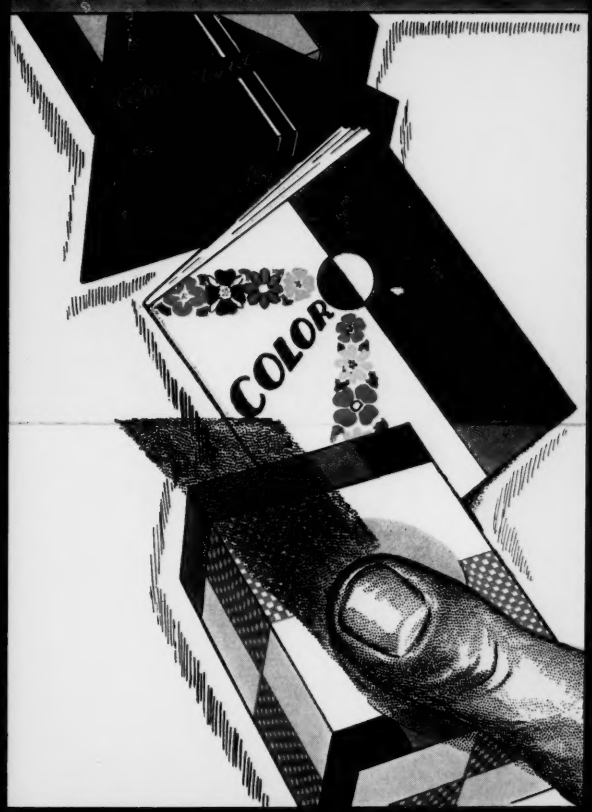
The roll embosser operates on the same general principles as the flat bed press, but the design is engraved on the surface of a round steel roll rather than on a flat metal plate, which is the case in the use of a flat press. The goods are carried through between the engraved steel roll and another roll used as a support. This supporting roll may be another steel roll engraved ex-



Typical asphalt laminating unit for caddy board

Protect Your Sales Appeal

Against SMUDGE



Unsightly smudges destroy the sales appeal of the most brilliantly planned and carefully executed sales pieces . . . You can protect your labels, cartons, window displays, book jackets, and other printed matter against smudge by using Crystalustre. It not only protects, but adds beauty . . . lustre.

Crystalustre is a flexible, durable, washable paper lacquer. It does not darken with age, discolor white or light colors, or become soft and tacky. It is a permanent surface, resistant to water, soap, grease, and alcoholic beverages.

Crystalustre may be used on calendars, programs, menus, labels, cartons, display cards, boxes, magazine covers, inserts, maps, toys, games, novelties . . .

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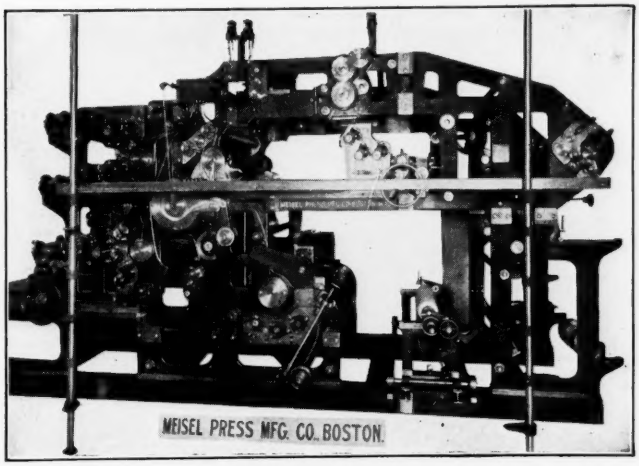
MEISEL PRESSES

ROTARY BED & PLATEN

QUALITY SPEED DURABILITY MEISEL

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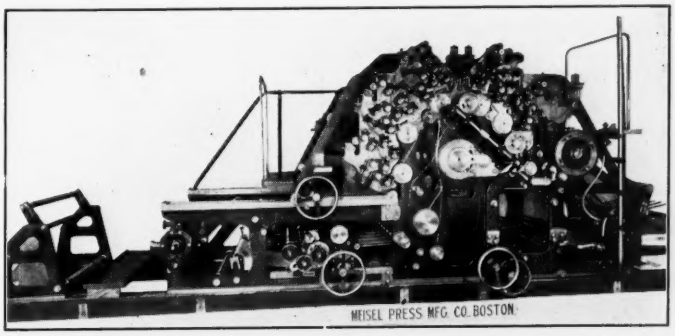
OFFSET TYPOGRAPHIC GRAVURE

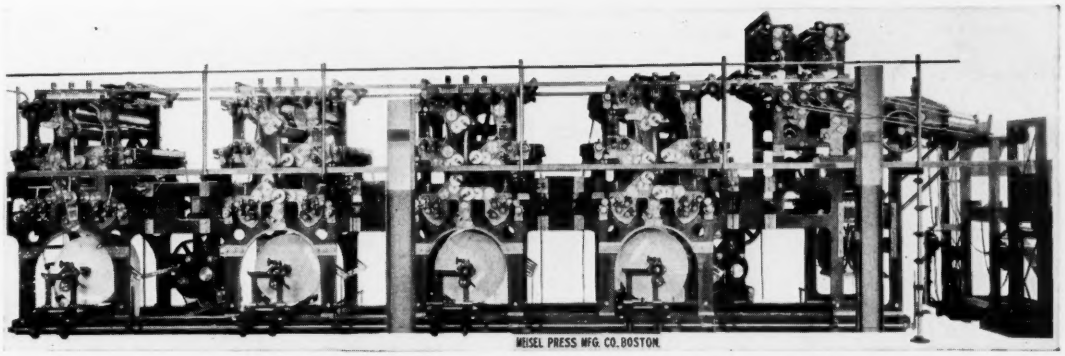


It takes an album to show the complete and diversified output of Meisel Press Mfg. Co. during their thirty-four years of continued effort.

The sturdy construction and mechanisms embodied in Meisel machinery commend them to your attention for saving in production.

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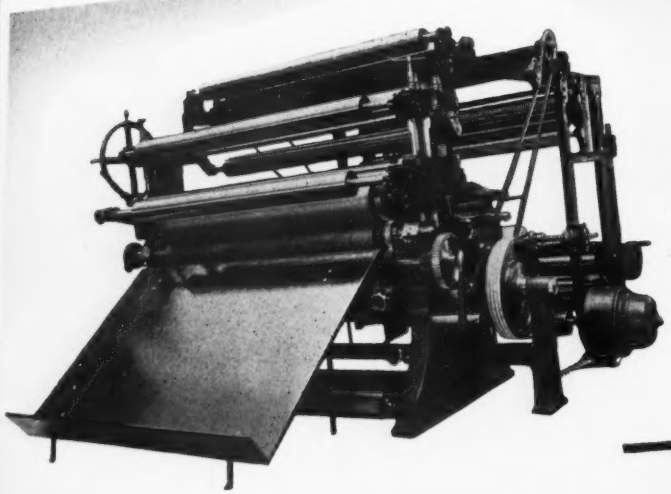


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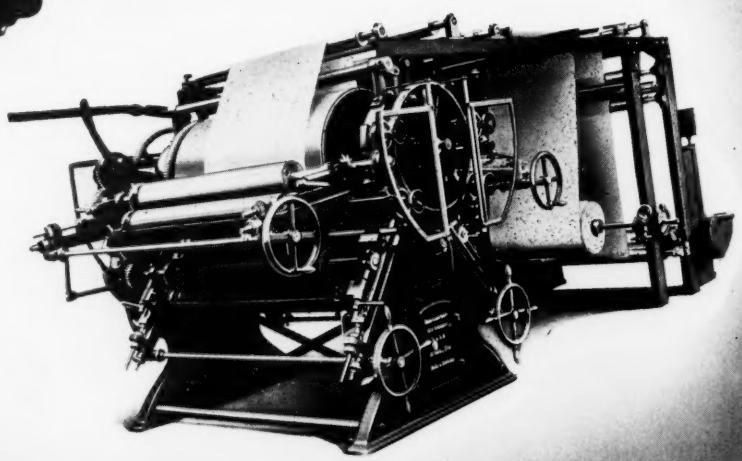
Aniline machines solidly built and capable of staining and printing one to four colors at high speed in register without offset.

Oil color presses of all types with original and order getting innovations. For Surface and Rotogravure Printing.

Combination aniline and oil machines which will print two to twelve colors in different and novel designs.



74 Inch Two Color Aniline Duplex Staining, Decorating and Trade Making Machine for Paper or Board Stock in Rolls and Sheets. Net Weight 17,500 Lbs.



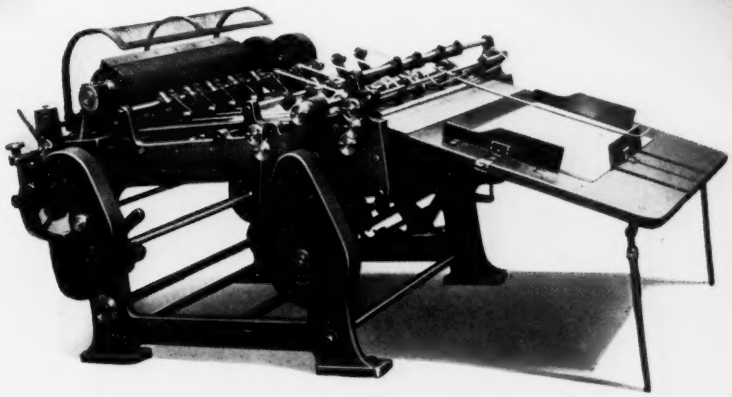
40 Inch Four Color Aniline Printing Unit with Central Cylinder, Complete with Winder. Net Weight 10,000 Lbs.

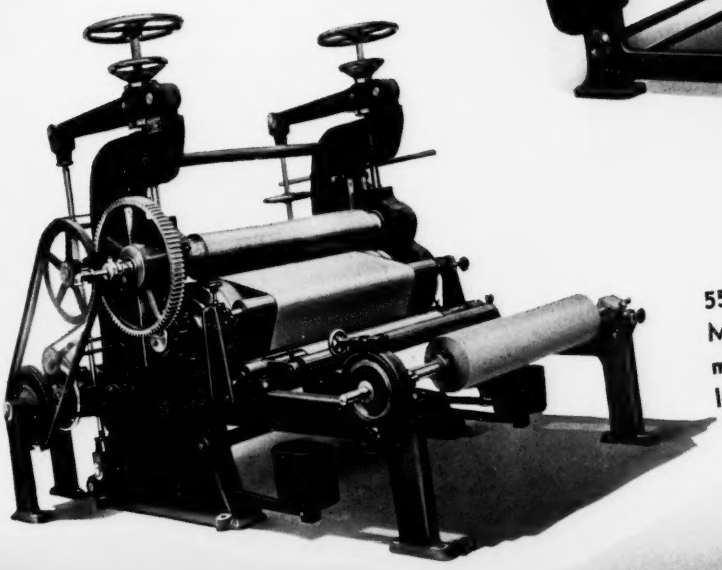
Embossing equipment, heavy construction, with precision adjustments.

New and distinctive patterns on steel embossing rollers and rubber printing rollers.

Accurate sheeting machines for use with our other appliances or as separate units.

Cutting and Sheeting Equipment for All Grades of Paper.





55 Inch Heavy Duty High Speed Embossing Machine, S.K.F. Roller Bearings, Lock Adjustment on Hand Wheels, and Pressure Regulator at Rear of Unit.

actly opposite or negative to the top roll. The two rolls are geared so as to exactly mesh into each other.

There are three general classes or types of embossing which can be accomplished by the use of a roll embosser. Namely, these are regular, ink and two-toned embossing effects that are obtainable.

Regular embossing is the term applied when using an embossing machine having a steel engraved roll and a paper impression roll running exactly in register with the engraved roll. With this type of embossing the design shows in relief on the under side of the material. This class of embossing is sometimes called male and female embossing. Ink embossing is the term applied when embossing and inking are done in one operation.

Ink embossing is accomplished by mounting an ink fountain on the embossing machine frames in such a manner so that the ink distributing roll contacts the surface of the steel engraved roll. In this manner the ink is deposited on the high or raised portions of the design on the steel engraved roll, which in turn, as the material passes through the nip of the embossing rolls, transfers the ink to the low or depressed portions of the embossed material. With the use of an ink embossing machine some unusual effects can be secured.

Two-toned embossing is the term applied when using an embossing machine equipped with a steel engraved roll which is heated by steam or some other means, and a paper roll which is not a direct repeat of the steel roll. In this way the design on the steel roll does not make any impression on the paper roll as the design repeats in a slightly different location at each revolution of the roll. The material when embossed is, therefore, held against a flat surface on the underside, and the steel roll causes only a slight depression on the material. The heat of the steel foil causes a slight discoloration and ironing effect to the portion of the material contacting the raised portions of the steel engraved roll, thereby resulting in a two-toned effect on the material as processed. This class of embossing can be accomplished on a regular two roll embossing machine although in some cases it is desirable to use a special type three roll embossing machine of special development.

LACQUERED PAPERS

by CHARLES E. FAWKES

IN THE PACKAGING CATALOG for 1936, the history of lacquered paper was very briefly reviewed from the time of Schönbein's discovery of nitrocellulose in 1845 up to current practice. Such a review was necessarily extremely sketchy and incomplete. However, certain facts of aid in understanding the history of the adaptation of lacquer to paper coating were reviewed, their origin indicated and their importance estimated.

It was pointed out that there were certain unavoidable variables entering into lacquered paper. First, it was pointed out that the word "paper" covers a multitude of sins and virtues; that certain types of paper are easily adaptable to lacquering while others are not. Primarly this difference is related to the permeability of the paper surface to organic liquids. Permeable papers are in general difficult to lacquer, while impermeable papers are readily lacquered. Degree of permeability in paper structures was shown to be related to several well known qualities recognized by the paper chemist in the paper making process. A paper having a high "freeness" in the paper process is permeable to organic liquids, while a paper of low "freeness" such as glassine is impermeable to organic liquids such as ink, varnish and lacquer. Absorptive papers are made impermeable also by use of "coating" processes well known in paper manufacture such as "litho coating," casein sizing, flint coating, "enameling," starch ironing, etc. In addition minor qualities such as denseness, smoothness and rosin sizing play a part, but a very unimportant one.

Troubles arising from inks were discussed. It was stated that the dependable ink maker, knowing that printed matter is to be subsequently lacquered, finds no unsurmountable obstacle in either pigments or vehicle. Very seldom can failure be blamed on the ink maker.

The third and fourth variables, lacquer and method of application are, like the paper, of the greatest importance. The formulation and manufacture of lacquers suitable for application to many different paper structures of commercial importance calls for the highest skill in the lacquer makers' art. Out of a total of several hundred lacquer establishments in this country, only a comparatively small number possess the intimate knowledge of paper, paper coatings, inks, printing, coating machinery, etc., required to undertake paper lacquer work with assurance of satisfactory results.

In the previous paper it was pointed out that lacquer was more costly than either press varnish or spirit varnish. It was argued with more or less success that this cost was supported by better appearance, longer life and especially by certain highly versatile functional properties possessed by lacquers specifically.

There is probably no phase of paper lacquer work which is less understood than the *cost* of lacquering. This is natural since, for years the varnisher has had, in general, no good cost finding system. In fact the cost of varnish is so small a part of the custom varnishers' charges that it has been the practice in many places to make no changes in varnishing prices even when the market price of spirit varnish has fluctuated over wide extremes in ranges for that commodity.

"In actual production ★ PYROXCOTE is used"



★ PYROXCOTE

Pyroxcote is the name of a family of lacquers, the processes related to their application, and the methods of using them in packaging—whereby such results as are here illustrated become mass production realities. Lacquers, processes, and packages are developed and engineered for individual products by—

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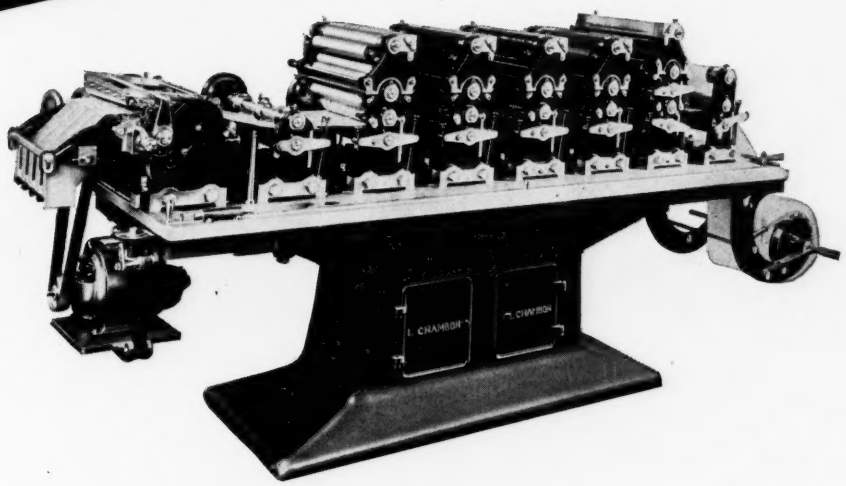
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DESIGNERS and BUILDERS of

AUTOMATIC ROTARY PRINTING PRESSES

THE MACHINES THAT REVOLUTIONIZED PACKAGE and LABEL PRINTING

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The Basic Rotary Multicolor Printing Press

Affords high speed production of multicolor labels, cartons, wraps, bills, checks, tickets, etc. Handles every material from transparent cellulose to 35 point board.

All operations are performed simultaneously in a single assembly . . . prints from rolls in one to five or more colors . . . letterpress . . . dry offset . . . aniline . . . rotogravure or combinations of these methods.

Machine can be equipped for varnishing, printing face and back, also for creasing, embossing, perforating, slitting, sheeting, die-cutting, rewinding, etc.

Actually a series of simple units, lined up on a single base, geared to a single power source, working on a single web of paper or board.

The resulting perfection of workmanship, speed, capacity of output and low cost of operation have won for these machines thousands of installations in the last fifty years throughout the world. Investigate! Write.

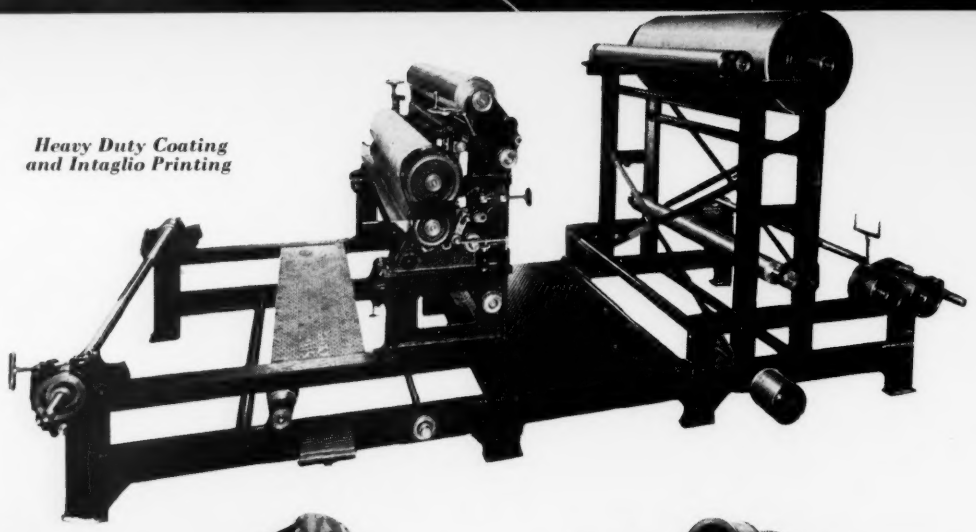
L. C. MACHINERY CO., Inc.

460 West 34th Street NEW YORK CITY

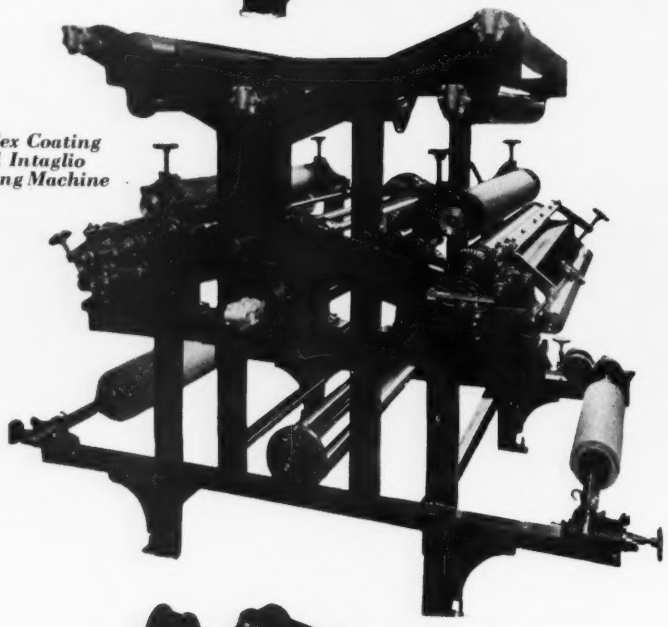
MEDALLION 3-5383

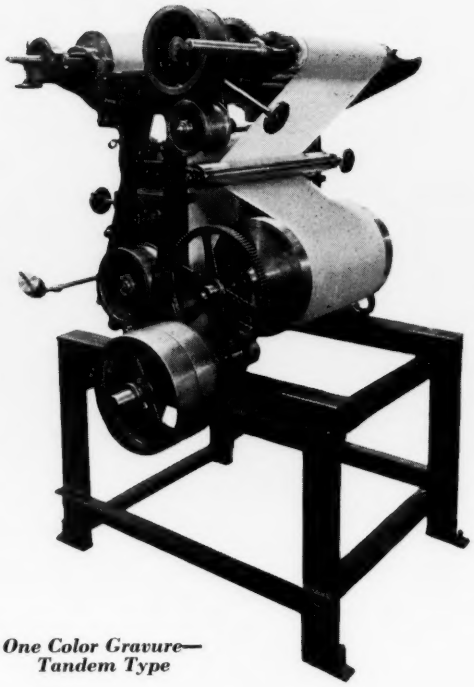
American Affiliate of L. Chambon, Paris Chambon, Ltd., London

Heavy Duty Coating and Intaglio Printing

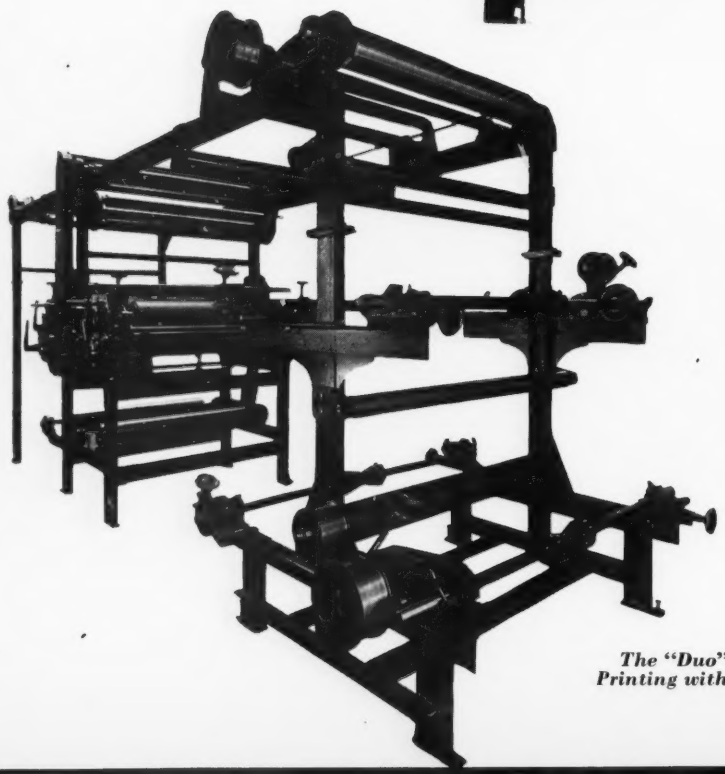


Duplex Coating and Intaglio Printing Machine





One Color Gravure— Tandem Type



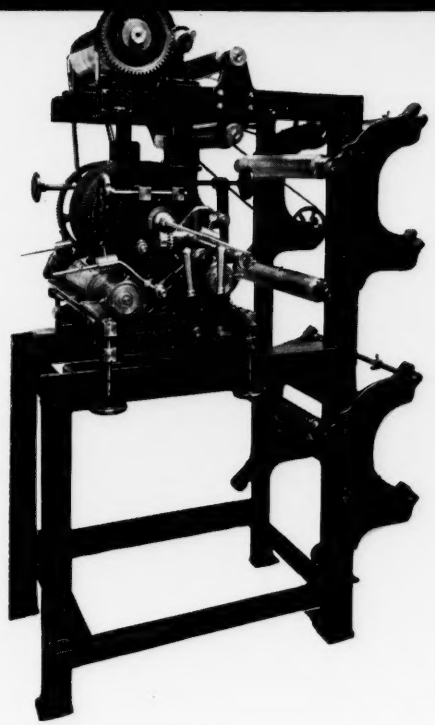
The "Duo" for Intaglio or Surface Printing with Double Unroll and Reroll

The machines here shown represent only a portion of the Printcote line . . . for Printcote makes machines to perform one or more of the following operations: printing in aniline, water-color, oil or rotogravure, tinting, pasting, coating and intaglio printing. Many special machines, for special purposes, offer great economies of operation.

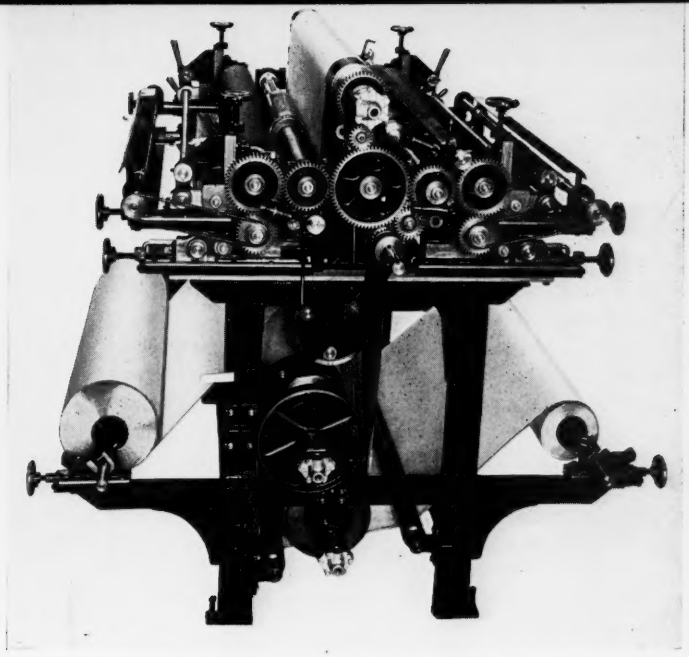
Other firms find it preferable to use one of the All-Purpose Duos, machines capable of performing any or all of the operations listed above.

Printcote machines, while occupying a mini-

PRINTCOTE



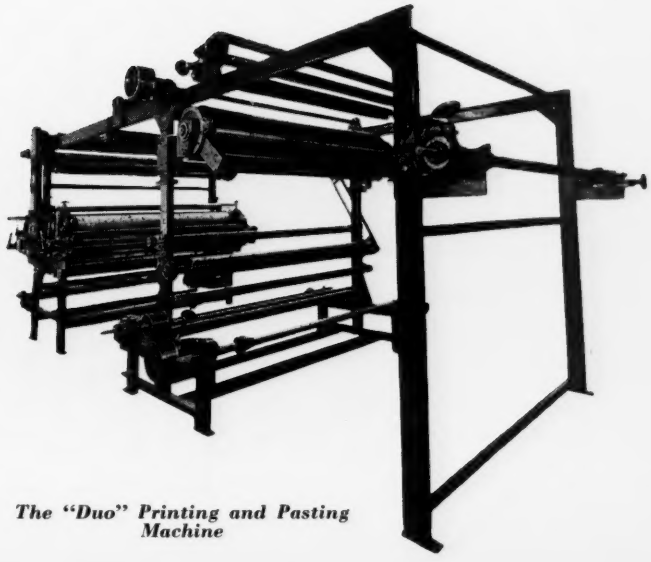
Two Color Intaglio for Narrow Widths



Two Color "All-Purpose" Intaglio or Surface Printing

mum of space, have high production speeds, made possible by their Modern Steel Frames, electrically welded. These likewise permit complete accessibility at all points, making adjustment and cleaning a simple and speedy operation. Ball bearings throughout are of the self-aligning type. Drying cylinders are steam heated.

Before you plan any paper-processing installations, see the Printcote line. These machines may be viewed at our New York office or in plants in which they are installed and working. Write for full details.



The "Duo" Printing and Pasting Machine

The PRINTCOTE COMPANY

111 FIFTH AVE., NEW YORK CITY

With paper lacquer came the lacquer chemist and with him came his idolatry of the analytical balance. He insisted on weighing what he was doing. The result of this improved technique has been that the efficient and serious finishers are now weighing all their work (both lacquer and spirit varnish) to control both quality and cost. In short, lacquer was enough more expensive than spirit varnish so that it had to be used precisely, and with an accurate knowledge of costs. Thus the paper finishing industry in general may be said to have benefited by this better procedure.

The necessity of knowing costs is very great indeed in mass production of lacquered paper in all of its many forms. On this subject, what little has been written has been of a very indefinite character. As a result the possible user of lacquered paper in its many interesting forms, can nowhere get data helpful in answering his legitimate question: "If I use lacquer to solve my problem, what will it do to my costs?"

There is no "snappy" answer to this highly important question. Yet the answer is definite and simple and results from direct and understandable tests and calculations. It frequently happens also, that a study of a packaging problem will disclose that the use of lacquer may raise the cost of a label, and at the same time lower the total package cost and simultaneously improve it both in functional efficiency and appearance. An illustration will help to clarify this point.

A manufacturer of a nationally known food product, distributing scores of millions of packages per year became interested in improving *only* the appearance of the label on his friction top canister. This canister was made of tin and a wrap-around label was applied to its cylindrical walls after filling. A casual change to a lacquered label would have done two things to this package. First, it would have improved its eye appeal (and perhaps its sales); second, it would have increased the cost of the label $.19 per thousand.

Packaging of this product in tin was believed to be necessary to maintain it at an optimum moistness. The moisture equilibrium of the product was studied, together with rate of movement in the field, humidity of storage environments, etc. At this stage of the work it was recognized that a label having a low water vapor permeability would "keep" this product. There was then developed a paper walled canister, in place of the all tin canister, and the paper walls were tight wrapped with a lacquered label having the desired humidity control characteristics. Finally, then, the lacquered label was more costly than varnish, but the new total package cost was lowered.

The balance of this paper will deal with the relative costs of "glossing" paper with press varnish and spirit varnish as compared with the use of lacquer. In reading the discussion it should be borne in mind that these figures give only the typical costs of lacquering these particular structures, and they do not give the complete cost picture as related to packaging, since other factors may far outweigh these increments in cost as exemplified by the above case of the canister.

The cheapest material and method of securing gloss on printed matter is the application of "press varnish" or "overprint varnish." Essentially this consists of applying an unpigmented linseed varnish ink, heavily loaded with resin, over the printing by means of suitable typographical printing plates or electros on the printing press. As this paper is written the market on a good grade of such a press varnish is about 30 cents per pound. With good shop technique, careful pressmen and a dependable cost finding system, it has been found that one pound of press varnish will cover about 1350 sq. ft. of high grade patented coated or medium clay coated boxboard. Under similarly dependable shop conditions it is found that one pound of press varnish will cover about 1400 sq. ft. of good supered book paper, or medium grade one side coated litho. Press varnish is not applied over the unprinted areas of the paper, but to the ink carrying areas only, on account of its tendency to yellow with age. Thus simple arithmetic discloses the cost of overprint or press varnish at roughly $.22 per 1000 sq. ft.

The press charge, labor and burden are substantially higher than the application of a similar amount of a pigmented ink in one color to a similar area on account of difficulties with picking, stickiness, offset, low permissible skid height, etc. Even so, it can be seen that press or overprint varnish is a very cheap method of securing a glossy ink effect, especially when a medium gloss is satisfactory, and when the design of printed matter is low in total white paper area.

Spirit varnish is certainly the most widely used method of producing glossy printed matter. As all printers know, this process consists of flowing upon the paper a solution of resin, usually manilla or pontianak copal in alcohol and then passing the wet sheet through a drier where the alcohol solvent is driven off by heat. Actually, these varnishes are frequently adulterated, with rosin and naphtha, which does not change the visual characteristics of the deposited film, but lowers the resistance to abrasion to close to nil.

Most varnishers, although they do not know it, are today applying very close to 1½ lbs. of dry resin film per 1000 sq. ft. to the paper surfaces which they are finishing for their customers.

The average run of spirit varnishes will contain about equal weights of alcohol (volatile) and resin (depositable film) and the solution will weigh about 7.25 lbs. per gallon. Before introduction into the varnishing machine fountain the varnish is thinned with about ⅕ of its own weight of alcohol. This thinning is not done under controlled conditions, but study of actual shop practice shows this is a good average. Today's market is roughly $.85 per gallon for a "pure" copal varnish and $.35 per gallon for denatured alcohol. The cost computation therefore goes as follows:

Cost varnish	= $.85 per gal.
" alcohol	= .35 " "
Non volatile varnish	= 50%
" " alcohol	= 0%

HI-GLOSS

REG. U. S. PAT. OFFICE

OVERPRINT VARNISH



RECOMMENDED BY:

THE AMERICAN COATING MILLS—CARTON DIVISION

Manufacturers of the Sergeant's Soap carton shown at left—regular production work with Hi-Gloss and A.C.M. Clay Coated Board.

FOR APPEARANCE:

A clean, brilliant package that will not gather dust. An elastic, slippery surface that will not crack with scoring, folding or embossing. Paste flaps free for firm gluing, plain stock free of discoloration.

FOR PROTECTION:

Resists all rough treatment.

Resists: Chafing
Water
Alcohol
Soap
Alkali
Grease

POPE & GRAY, Inc.

FINE PRINTING & LITHOGRAPHIC INKS

95 MORTON ST., NEW YORK CITY

Weight varnish = 7.25 lbs. per gal.
" alcohol = 6.70 " " "

Therefore,

1 gal. varnish = 7.25 × 50% =	3.62 lbs. non vol. per gal.	$.85
.217 gal. alcohol = 6.70 × 0% =	.00	.076
	= 3.62 "	$.936

Hence 1 lb. varnish deposited = $\frac{\$ .936}{3.62} = \$.258$

or per 1000 sq. ft. (1½ lbs.) = 11/2 × $.258 = $.388

To this unit cost must, of course, be added cost of gas or steam in the drier, labor, machine charge, etc.

Much interest has been created in lacquered paper by the excellent and beautiful advertisements which have appeared in the pages of MODERN PACKAGING inserted there by the basic chemical manufacturers supplying the lacquer industry, such as the Hercules Powder Company, Commercial Solvents Corporation, etc. Since it is likely that readers of this magazine will be familiar with these examples of lacquered paper (and since they exemplify the highest grade of lacquered catalog cover, book wrap, recipe book cover, washable calendar, smudge proof filling station charts, public school book wraps and similar products), an analysis of cost will be attempted.

These different lacquered magazine inserts showed that the paper carried an average of 3.2 lbs. of lacquer film per 1000 sq. ft. The lacquer used on some of these inserts was identified as a commercial product supplied in the market at $1.45 per gallon and contained 27 per cent non volatile. The lacquer weighed 7.72 lbs. per gallon and was applied unthinned.

Cost lacquer = $1.45 per gal.
Non volatile = 27%
Weight per gallon = 7.72 lbs.
Therefore 1 gal. lacquer = 7.72 × 27 = 2.08 lbs. non volatile per gallon
$1.45 = 2.08 lbs. non volatile
1 lb. non volatile = $.70
1000 sq. ft. will require
(3.2 lbs. × $.70) = $2.24

Although this figure will strike the reader as high, it is interesting to note that one cosmetic box manufactured by the millions in New York City is a "set-up" box covered with lacquered paper carrying 9 lbs. per 1000 sq. ft. of dry film, and the lacquer costs $4.47 per 1000 sq. ft. for lacquer alone. This package has a "field life" averaging 4 months in milady's bathroom, purse and on her dressing table, and it always looks as bright and snappy when finally consigned to the waste basket as when sold over the dealer's counter. It is true, however, that this class of lacquer work is "the tops." Let us explore the other extreme.

Glassine is the least permeable, most dense and highly hydrated form of paper made by the paper machine process. Glassine is lacquered every day in large quantity with a water-proof heat sealing lacquer. The raw weight of this glassine is 24 lbs. per ream (3000 sq. ft.) or 8 lbs. per 1000 sq. ft. To secure satisfactory moisture proofness it has been found by experiment that .8 lbs. of film must be applied equally divided between the two sides. The lacquer weighs 6.64 lbs. per gallon and contains 30 per cent non volatile. It is obtainable at $2.00 per gallon.

Cost lacquer = $2.00 per gallon
Non volatile = 30%
Weight lacquer = 6.64 lbs. per gallon
1 gal. lacquer = 6.64 × 30 = 1.99 lbs. non volatile per gallon
Hence 1 lb. film deposited = $\frac{\$2.00}{1.99} = \$1.00$ per lb. non volatile

8.0 lbs. (1000 sq. ft.) glassine at $.12	= $ .96
.8 lbs. lacquer film at $1.00	= .80
8.8 lbs. lacquered glassine	= $1.76

Therefore 1 ream (3000 sq. ft.) of this lacquered glassine costs $5.28. Since the 24 lb. glassine has been changed by the lacquering process to 26.4 lbs. glassine, the per lb. cost of this glassine now is $5.28 ÷ 26.4 = $.20 per lb.

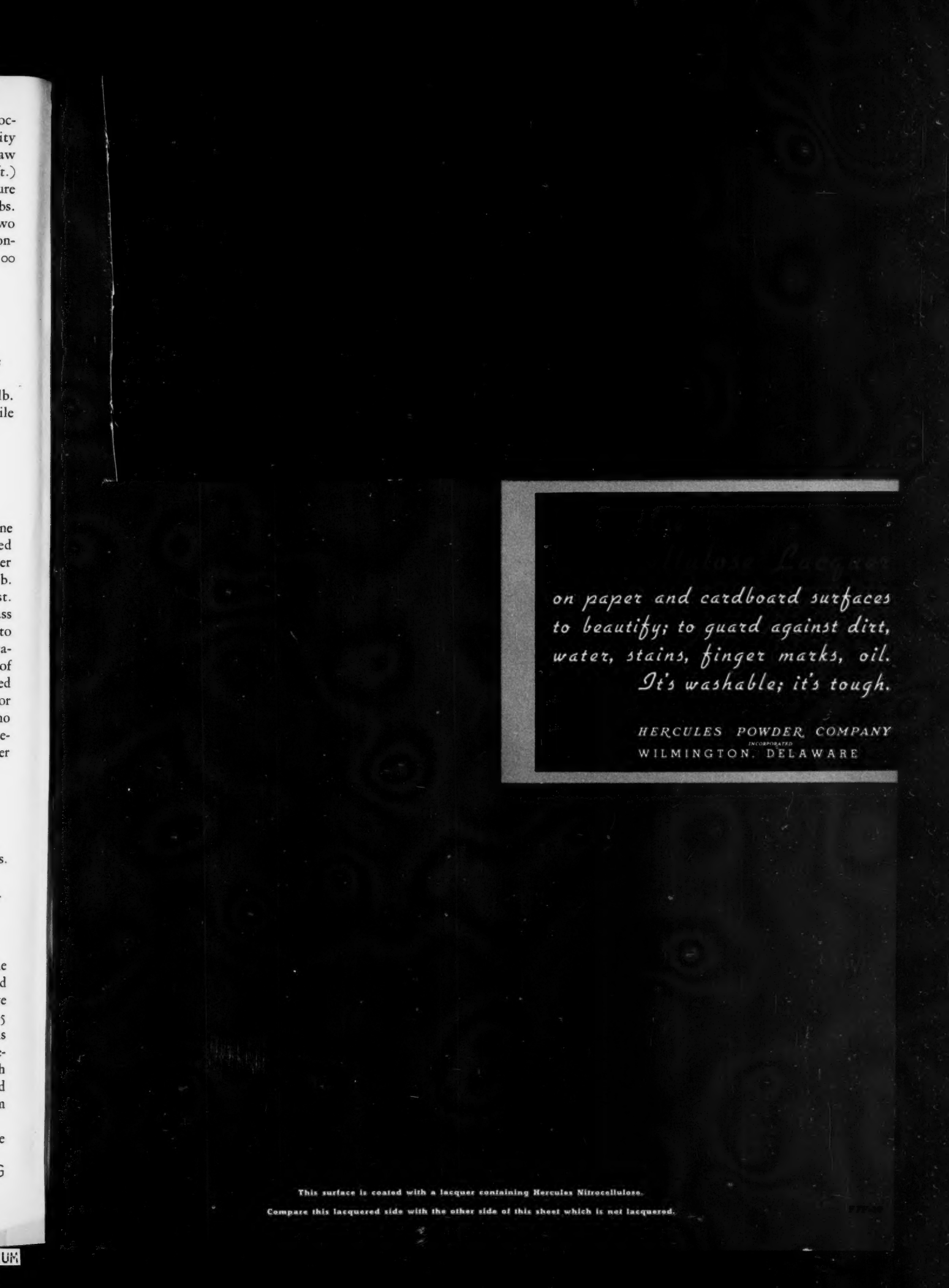
We have considered now the two extremes of cost. Let us now study the cost of lacquering labels on a mass production scale. Let us assume that the problem is to produce a label of good gloss, perfect resistance to abrasion, resistance to heat blocking and a high order of moisture proofness. Assume further that one hundred million labels per year are to be lacquered over two color typographical printing upon a high grade coated litho sheet. It is found by experiment that to pass the required tests the label must carry 1 lb. of deposited lacquer film per 1000 sq. ft.

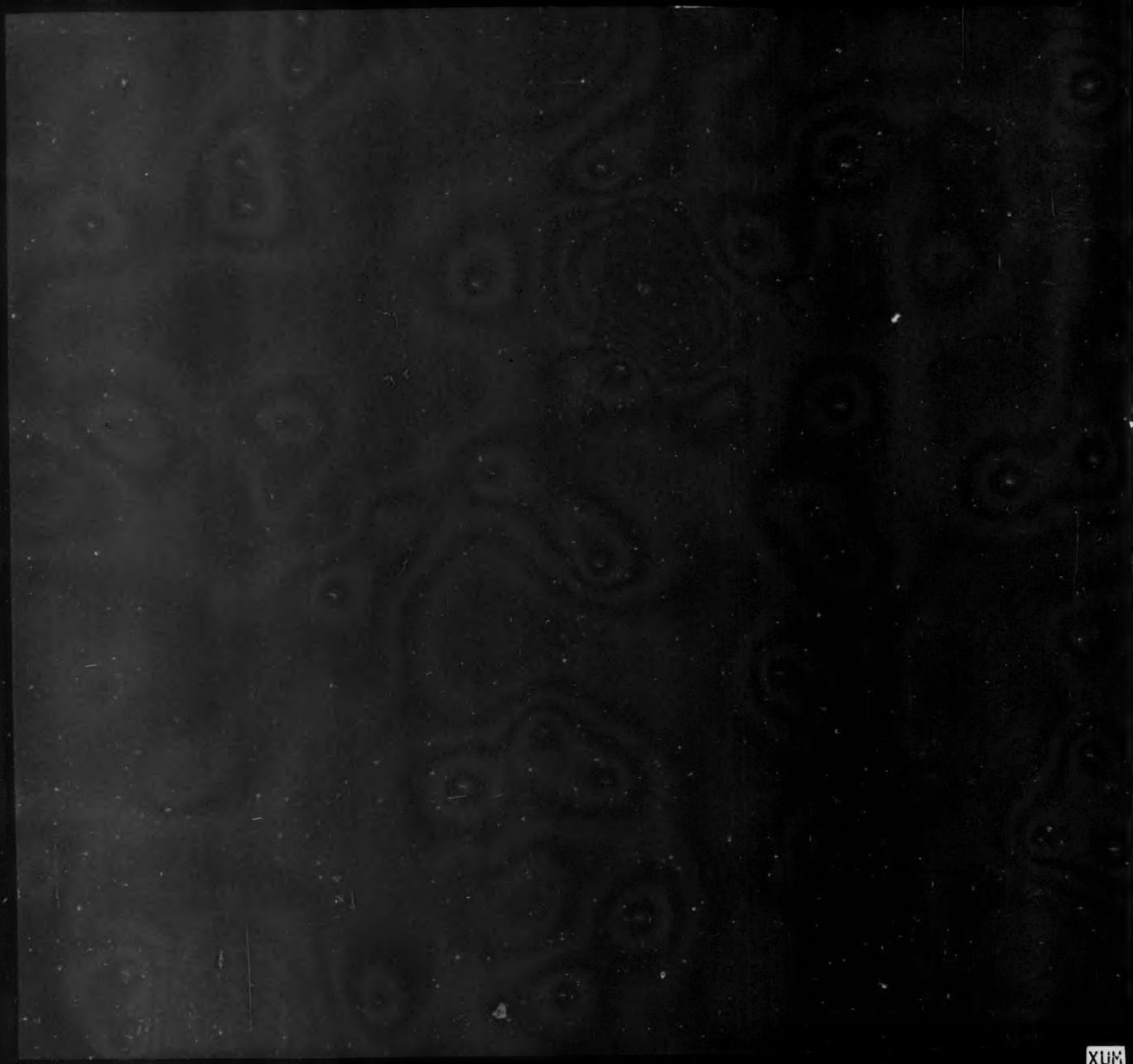
Cost of lacquer = $1.45 per gallon
Non volatile = 27%
Weight per gallon = 7.8 lbs.
Therefore 1 gal. lacquer = 7.8 × 27% = 2.1 lbs. non volatile per gallon
$1.45 = 2.1 lbs.
1 lb. non volatile = $.69
or 1000 sq. ft. (1 lb.) = $.69

Now this particular label has an area of 50 sq. in. The cost of lacquering is therefore $.24 per 1000 labels. Had these labels been spirit varnished the cost would have been $.135 per 1000. Thus, for a cost increase of $.105 per 1000 this manufacturer has, as advantages over his competitor, better initial appearance, no scuffing or defacing of his labels in shipment, no stickiness to catch dirt and dust during his hot packing operations and finally a package maintaining the moisture equilibrium of its contents.

From such sample calculations it may be seen that the

XUM


Nitrocellulose Lacquer
on paper and cardboard surfaces
to beautify; to guard against dirt,
water, stains, finger marks, oil.
It's washable; it's tough.
HERCULES POWDER COMPANY
INCORPORATED
WILMINGTON, DELAWARE
This surface is coated with a lacquer containing Hercules Nitrocellulose.
Compare this lacquered side with the other side of this sheet which is not lacquered.



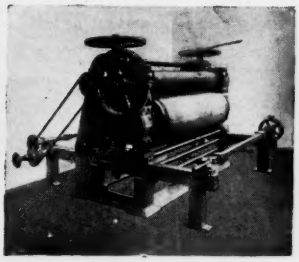
XUM

JOHN WALDRON CORPORATION

MAIN OFFICE AND WORKS—NEW BRUNSWICK, N. J.

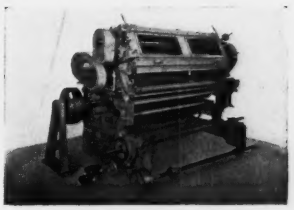
NEW YORK—350 Madison Ave. CHICAGO—201 N. Wells St. PORTLAND, ORE.—2860 N. W. Front Ave.

WALDRON MACHINES
OVER A CENTURY OF EXPERIENCE BUILDING PAPER CONVERTING MACHINES
SINCE 1827



"Centennial" Embossing Machine

EMBOSSING MACHINES
LAMINATING MACHINES
COATING MACHINES
and DRYERS
WAXING MACHINES
CELLULOSE BAG MACHINES



Waldron Lacquer Coater

Embossing Machines

Waldron Embossing Machines are built in a wide range of types for producing desired effects on any material with roll embossers. Each machine rigidly built and correctly designed and proportioned with respect to the important factors of speed, pressure and tension for particular requirements. Waldron machines will produce an almost unlimited variety of distinctive designs and embossed effects.

Waldron Embossing Rolls

Waldron Embossing Rolls provide a longer life due to the use of carefully conditioned paper in their construction and their harder, more even surface. Carefully proportioned shafts and heads. Waldron Rolls can be relied upon to give many extra service hours and to reduce rolls costs.

Web and Sheet Lacquering Machines

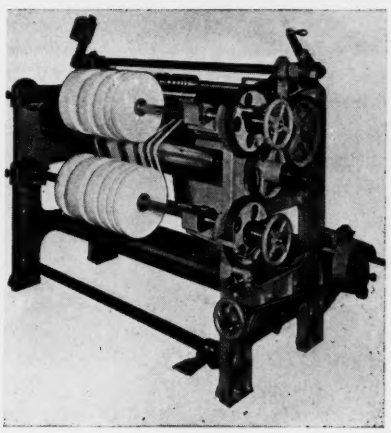
The Waldron Reverse Roll Coater is specially designed for the application of quick drying lacquers or varnishes. Smooth, solid, uniform coat is assured without rubbing or brush marks. Particularly adapted for applying metallic coatings, bronze, high lustre or waterproof coating on paper or fabric.

Waldron Slitting Machines

Various types of slitting machines including the new slitter and center rewinder illustrated. This machine is designed to provide individual control for each strip. Cuts with shear edge eliminating cracked edges. Heavy Waldron construction assures speedy, smooth, trouble-free operation.

THE NEW *Fluid Ink* PRESSES

Regardless of size of equipment, these are truly *all purpose fluid ink* presses, adaptable for use of water colors, aniline, pigmented, lacquer, rotogravure, and, if necessary, regular printing inks. Readily accommodate themselves to surface printing. The most versatile presses ever developed. Write for full details.



Waldron Slitter and Rewinder

Waldron Coating Machines

Waldron Coating Machines are available in knife, combination roll and knife, roll coaters, reverse roll brush type and spray head, covering the entire range of coating requirements. Regardless of the kind of coating material used—thin staining material for tints, waterproof material, varnish or lacquer—a Waldron machine can be depended upon to apply it faster, smoother and better.

Waldron Laminating Machines

For the combining of cloth, paper, regenerated cellulose and boards using paste, asphalt, lacquer, latex, hot melts or cold adhesives. Ideal for applying adhesive to transparents smoothly and without "ribbing."

Waldron Waxing Machines

Of heavy construction suitable for high speed operation and with either water bath for high lustre or cylinder chilling rolls with brine. Nashua-Kalamazoo licensed suction method for water removal used when run with water dip method of chilling.

Engineering Service

Utilize Waldron's century and more of experience to assist in solving your particular processing and production problems. Inquiries of any nature invited and treated in confidence.

general method of determining the cost of lacquering paper involves knowing five facts:

1. It is necessary first to learn by experiment what amount of lacquer film must be deposited per unit area, in order to produce the decorative or functional result sought after. That is, if a filling station lubricating chart is to be "smut proofed" it is necessary that a number of samples be actually lacquered with varying amounts of lacquer, and that grease penetration and washability tests be carried out to determine the minimum optimum lacquer film requirement.
2. The maximum viscosity and non volatile concentration in the particular lacquer required which will run satisfactorily upon the coating mechanism must be determined by experiment.
3. The concentration of non volatile film forming constituents corresponding to optimum coating machine concentration.
4. The specific gravity or the weight per gallon of the lacquer.
5. The cost per gallon of lacquer.

With these facts established it will be found in general, that the difference between the cost of lacquering and the cost of applying spirit varnish amounts to the difference between the spirit varnish cost given in this paper and the cost of the calculated deposited lacquer. This amounts to saying that in general the other incidental finishing costs including labor, machine charge, heat for the drier, burden, etc., are identical whether spirit varnish or lacquer is being applied. Summing up these two sentences into one, and assuming average costs for these burden items from many different factories, it is found usually that the cost of lacquering runs roughly about one and one-half times the cost of spirit varnishing, and about three times the cost of overprint or press varnishing. Lacquering costs are tending toward stabilization at about these relative levels in widely separated regions of the country. This stabilization represents the result of careful cost studies by workers in this field.

As pointed out in last year's paper there is still no reason to believe that spirit varnishes or overprint will ever lose much ground to lacquer on vegetable can labels, cigar bands or other places where glossiness and low cost are the only considerations. Furthermore, it is likely that lacquer costs will continue, for a long time, to be higher than spirit varnish. Still the use of lacquer on paper is today expanding in spite of this cost differential, because used intelligently upon packaging problems, it can be fitted to the requirements of the job with a nicety impossible for any other coating obtainable.

VARNISHED PAPERS

by GORDON H. ROBERTSON

PRODUCT SALES SUCCESSES and smart packaging are today so closely related that "dressed up and going places" has become a truism, and packaging authorities are giving careful attention to design, effective color treatment, clean printing and to lustre and protection as afforded by transparent surface coatings. Cartons and labels are no longer regarded simply as a means to identity or to convey a message. They are proving one of the most important of all advertising mediums, and in conjunction with standard advertising mediums they are selling goods.

Transparent surface coatings for labels and cartons have an advantage over transparent wrappers where cost is also a factor in that they become an integral part of the package and their value does not end when the package is opened. Lacquers and spirit label varnishes are the two types of transparent surface coatings in common use. Spirit label varnishes are, perhaps, the most extensively used due to their lower cost per gallon and greater coverage. Recent advances in the development of chafe-resisting types are increasing their popularity where this characteristic is a requisite and lacquers formerly proved the only solution. Considerable use is also made of improved overprint varnishes.

Spirit label varnishes are simple in their composition—comprising alcohol or a varnish maker and painter's naphtha and alcohol for a solvent, plus manila gum. Rosin is sometimes added where extreme paleness is not an essential. Although basically simple, their exact formulation, processing and application have considerable bearing upon the quality of the coating obtained, its clear, pale transparency and the amount of gloss. Good grades show little tendency toward discoloration when applied to the proper paper stock. They dry rapidly, and produce a hard coating, with a minimum foaming in the fountain.

Spirit label varnishes have many other attributes from the standpoint of packaging. They both enhance and protect—assuring the added eye appeal of smart, brilliant, and clean labels, cartons and wrappers. They resist dirt, prevent moisture from bleeding the lithography and reduce the tendency for glue to soften and loosen. The velvety gloss which they impart snaps up colors. Chafe-resisting types also resist scuffing, scarring and smudging.

Types of Paper Used for Labels. The grades of paper for this requirement are legion. Those generally used are the coated and calendered stocks, the latter identified as



Silent Salesmen

★

Gaining attention is the first step in every sale. Give your package such personality, such sparkling beauty that the purchaser's eye is irresistibly drawn directly to your merchandise. ★ *Virkotyping is a continuation of regular printing produced automatically and simultaneously with the printing at highest speeds of which the presses are capable.* ★ *If you are a creator, producer or user of distinctive closures, let us give you the details of this low cost method of adding eye-appeal to your package in keeping with the quality of product.*

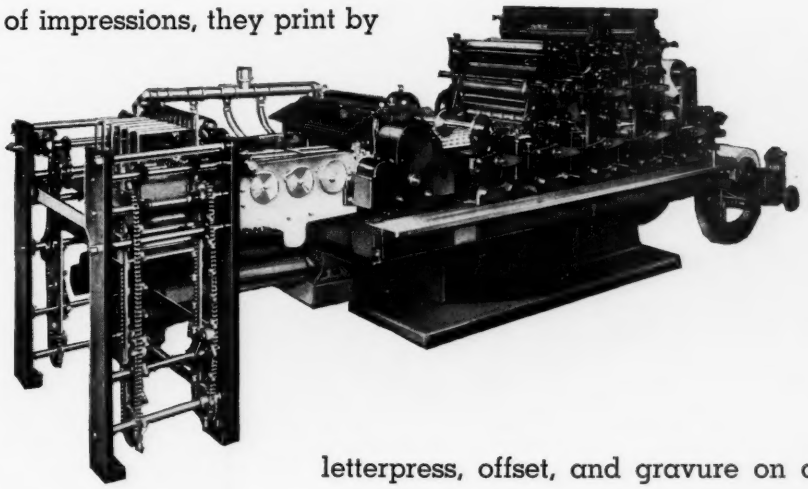
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WOOD, NATHAN & VIRKUS CO., INC.

VIRKOTYPE PRODUCTS

112 CHARLTON STREET, NEW YORK CITY

CHAMBON CORPORATION designs and builds CHAMBON and CHAMPLAIN Rotary Printing Presses for producing the highest quality of multicolor package and specialty printing at savings as great as 35% over present costs. These efficient presses are roll-fed with all operations continuous. From precision plates good for millions of impressions, they print by



A Chambon can label producing press which prints, cuts to size, and delivers the labels in counted stacks at the rate of 100,000 per hour.

letterpress, offset, and gravure on any kind of paper from cellophane up to 35-point board. Supplementary operations such as varnishing, lacquering, waxing, laminating, scoring, creasing, embossing, perforating, sheeting, slitting, rewinding, dieing out, etc. are all performed on the same press. An analysis to show what savings can be effected will be furnished to manufacturers submitting samples and data covering production requirements. Write to CHAMBON CORPORATION, Outwater Lane and Spruce Street, Garfield, New Jersey.

CHAMBON
& CHAMPLAIN
ROTARY PRINTING PRESSES

M. F., or machine finished. The coated papers are classified as 45-, 50-, 55- and 60-lb. grades, the weight indicating the quantity of coating or surface material required to the ream. Coated paper has a better surface for the application of a smooth, high gloss finish.

For the lower quality labels the M. F. (non-coated) stock is used. The extreme porosity of this grade presents the greatest obstacle to a quality finish. However, where the printing completely covers the surface, a well sealed foundation is provided for the varnish coat.

For carton work, various grades of newsprint cardboard (pulped from general scrap paper) are used and by veneering a sheet of coated paper to the cardboard surface a better quality carton is obtained. Without this veneer it is difficult to secure a satisfactory finish unless the entire surface is sealed with printing ink.

Application. Spirit label and carton varnishes are generally applied by the roller process. The sheets are fed either by hand or mechanically to the rear of the machine, whence automatic fingers convey the sheet to a revolving drum that holds it against the varnishing roll. This drum completes the revolution to a point where the sheet passes to a belt delivery, then through a drying oven (temperature ranging from 160 to 200 deg. F.) sixty-five feet in length. After this operation it travels an additional thirty feet for cooling before arriving at the stacking table.

Stacking. The extent of sheet stacking is limited to the individual facilities for drying and cooling, and the grade of varnish in use. Sheets coated with a pure gum varnish may be stacked to a height of three or four feet (6000–7000 sheets, 54 in. × 44 in.) and handled by the cutting machine the following day. On the other hand, the slower drying rosin varnishes limit the stacking to only 300 to 400 sheets and require ruffling before being racked. Standing the sheets on end will permit cutting in about 72 hours. Otherwise there is a tendency to soften the back and cause sticking of sheets. Sticking is most commonly encountered where varnishes of high rosin content are used, and the trouble occurs most frequently on hot, humid days when the drying conditions are not favorable.

Blocking is experienced with rosin-free varnishes and is caused by the gelatinous, partially soluble portion of manila gum. This tendency can be overcome by having the varnish properly aged or clarified, in which case the gelatinous portion is removed from the gum.

The carton cardboard stock is handled with the same equipment used in coating lighter sheets, but with limitations on stacking. The scoring (folding division) and cutting operations complete the job.

There are several pitfalls in addition to poor gloss and sticking which are sometimes encountered in the application of spirit label varnishes. Among these are *corduroying* or *ridging* of the finish. This is attributable to poor flow and may be remedied effectively by proper reduction with alcohol.

Color Change of Printing, often referred to as bleeding, is due to the use of alcohol soluble colors (tones) in the printing ink. Inks of this character should not be selected for the job. To meet emergencies from bleeding, special non-bleeding label varnishes now available should be used.

Air bells, bubbles or blisters which may appear at various places on the sheet are usually caused by an extremely heavy film of varnish. The coating roll induces a foaming in the fountain that is accentuated by excessive viscosity. The foam is carried to the sheet in the form of minute air bubbles which fail to burst and flow out. After entering the oven, the heat causes the bubble to puncture, but too late to allow proper flow, resulting in crater-like spots.

Objectionable Odor of Sheets is usually traceable to oxidation factors which are present during the drying of the printing ink. The varnish film leaves no residual odor.

Poor Chafe-Resistance or excessive powdering of the finish. All conventional spirit label varnishes have this characteristic weakness. Those containing rosin are the most easily affected. Where special requirements such as magazine covers, cigarette cartons, haberdashery boxes, etc., demand good chafe-resistance, only special chafe-resisting spirit label and carton varnishes should be used.

Abnormal Penetration. Certain paper manufacturers use paraffin base fillers which have an affinity for label varnishes containing petroleum thinners. The result is extreme penetration. A pure alcohol varnish, however, will produce the necessary build in the presence of this type of filler.

Overprint Varnishes differ from spirit varnishes in their basic formulation, in their characteristics and the methods of application. This type varnish consists of an oil base, plus rosins, wax and driers. It dries through oxidation and hence requires considerably more drying time than spirit types. The usual method of force drying is by open flame gas jets. Overprint varnishes have greater penetration than spirit types and for this reason are more likely to show discoloration and yield less gloss. Another disadvantage from the standpoint of the printer is the fact that highlighting, delicate shading, etc., tend to lose in value while full, solid colors gain.

Recent improvements in overprint varnishes have either nullified or reduced some of these disadvantages with the result that they are finding wider use where costs are an important factor. They have the distinct advantage of enabling the printer to handle his own varnishing on his regular press equipment.

When applied by means of plates made of linoleum, rubber or metal, the sheet is finished by means of an added impression after the usual make-ready. The use of the more advanced types of overprint varnishes will spare manufacturers the old difficulties from sticking or spoiling the job. Whether plates or roller impressions constitute the method used, however, only a kiss impression should be made, and there should be a minimum of tackiness, particularly with rubber plates.

The degree of gloss obtained by means of an overprint varnish is affected by the amount of ink on the sheet. If the fountain is set to deliver a generous amount of ink, the full color resulting will increase the gloss.

XUM

SECTION 12

SHIPPING

pages 428–467

ADHESIVES
CORRUGATED AND SOLID FIBRE CONTAINERS
GUMMED TAPE
METAL STRAPPING
WIRE STITCHING
WOODEN BOXES
PROTECTIVE SHIPPING MATERIALS

REFERENCES

See all other sections for specific applications of shipping.

ADHESIVES

by D. V. WILLIAMSON

IN MODERN PACKAGING OPERATIONS adhesives are very probably of more importance than is generally realized. The reason for this may be found in the silent and prosaic manner in which adhesives do their work. They are not visible on the finished package and, when they are running smoothly on the packaging machines, they are more or less taken for granted.

Consider some of the packaging operations of today where adhesives, in one form or another, are necessary:

Manufacture of paper boxes and cartons.
Manufacture of bags using plain or waxed paper, or transparent cellulose sheets, plain or moistureproof.
Manufacture of paper envelopes.
Manufacture of paper tubes and cans.
Manufacture of paper and fibre shipping cases and drums.
Sealing of paper boxes and cartons after they are filled with goods.
Wrapping of filled cartons with printed paper labels, metal foil, or transparent cellulose wraps.
Wrapping of products directly with transparent cellulose sheets and sealing them.
Labeling of cartons and boxes.
Labeling of bottles.
Labeling of cans.
Sealing of fibre and corrugated shipping cases.

The manufacturing and packaging operations above mentioned are performed on highly specialized machines which operate, in many cases, with truly remarkable speeds. On these machine operations, the adhesives used must not only have the property of making satisfactory seals and bonds with the papers, boards or other packaging materials used but they must also function properly on the machines under continuous operation and with an absolute minimum of operating trouble.

On machine packaging operations, these two essentials—ability to make suitable adhesive joints and ability to function properly on the machines—are equally important. The adhesive manufacturer, therefore, should have all essential information before he is asked to prescribe the proper adhesive.

When consideration is given to the multitude of products that are used for packaging today, and in conjunction with which adhesives are used, it will be realized that the selection of suitable adhesives for the particular operation in mind is important. For instance, an adhesive suitable for machine bottle labeling is useless for shipping case sealing. Can labeling adhesives are specialties for that particular purpose only. The same thing is true for adhesives for transparent cellulose sheets, foil, waxed paper, glassine and dozens and dozens of other materials.

Adhesion, primarily, is a matter of surfaces. The first essential in any adhesive operation is chemical attraction of the adhesive to each of the surfaces it is to hold together. For instance glass and phenol resin are both smooth, hard, dense materials and yet glass is easy to adhere to with adhesives while the latter is difficult to hold to. Adhesives which adhere to one will not necessarily adhere to the other because they are different materials from a chemical standpoint and a different type of adhesive is necessary for phenol resin than for glass or other substances.

A generation ago the only kind of glue in general use was animal glue. This product is made largely from the hides and bones of animals and is an exceedingly useful commodity in many lines of industry. It has, however, some inherent characteristics which make it of limited value in modern packaging. Among these may be mentioned the fact that it can be used only when heated and that it has a more or less objectionable odor for packaging use.

In the last fifteen or twenty years there has been a great advance in the technology of an entirely different class of adhesives often referred to as vegetable glues since they are derived from vegetable rather than animal sources; chiefly from corn and tapioca. These products can be used cold and are odorless, and the vast majority of the labeling and sealing operations on packaging machinery are performed by such adhesives. When used with most kinds of paper or boxboard they develop a strength of joint in excess of the strength of the materials they join together. They possess, moreover, many other desirable properties for machine operation.

Most of the adhesives for packaging operations are shipped by the adhesive manufacturers in prepared form ready to use, either as liquid glues or heavy bodied pastes, which products do not deteriorate with age. There are sold, however, products known as dry cold water soluble glues. These products are shipped dry and prepared for use by the packaging manufacturer by adding cold water, mixing properly and then waiting for the necessary chemical actions to take place. Properly handled, and in some operations, they can be depended upon to give good results.

The danger, however, lies in careless preparation, improper measurement of quantities, insufficient time allowed for the necessary chemical actions—all factors which experience has shown tend to produce unsatisfactory and non-uniform results. Moreover, such products, in many cases, must be used up in a day or so or they will start to deteriorate on standing. Again, it is a chemical impossibility for the adhesive manufacturer to incorporate in such dry products all of the materials that he can in liquid products. Many ingredients are used in

manufacturing prepared liquid adhesives (and which cannot be incorporated in the dry adhesives) with the result that in most cases the prepared adhesives are more satisfactory to the user.

The suitability of the adhesive for its particular operation is of primary importance. That is the factor above all others that makes money for the packaging company because it insures steady, uninterrupted operation of the costly packaging machines with their attendants. It is a matter which, so far as profits to the packaging company are concerned, completely transcends the price of the glue per pound.

Adhesives for Transparent Cellulose

Transparent cellulose wrappings are now being employed in practically every phase of packaging, and with them there has developed an insistent demand for suitable adhesives to use with them. To meet this demand has not been easy because of the many variables and difficulties present. With plain cellulose sheets careful chemical balance must be present in the adhesive used as otherwise the adhesive will attack the sheet and embrittle and weaken it. Excessive puckering of the sheet at the glued joint is another item that will occur if the adhesive is not designed for the delicate work required.

There is an important difference between the gluing of paper and boxboard to itself and the gluing of plain cellulose sheets to themselves. With the paper and boxboard thin films of adhesives are desirable; with the latter, thick adhesive films give stronger joints.

It makes a difference, from an adhesive standpoint, whether the operation is that of joining the plain transparent cellulose sheets to themselves, or to paper or to boxboard. An adhesive that gives the best results in the first instance may not also properly perform in the latter case.

With moistureproof cellulose sheets certain difficulties arise. These sheets are made of the plain cellulose material coated on both sides with a very thin layer of moistureproof material and the nature of this coating is such that adhesives designed for the plain sheets offer no adhesion whatever on the moistureproof surfaces. It is possible to use solvent types of adhesives which soften this moistureproof coating and give some adhesion when heated metal plates are pressed down on the glued joint while the film is thus softened. The resulting strength of joint is necessarily rather weak, however, because it is only the outer moistureproof layers that are joined together and the thickness of this layer is but .0001 in.—about one-tenth as thick as that of ordinary tissue paper.

Much stronger joints are possible, however, with adhesives which will penetrate the outer moistureproof layer and take hold of the plain cellulose sheet inside. These adhesives are of such nature that, while they may be applied properly with rolls on machines, they are not suitable for capillary wick action (as is possible with solvent type adhesives) and this is a point for machine manufacturers to bear in mind when designing machines to seal moistureproof cellulose sheets where really strong and reliable joints are desired—as on larger packages which may have to stand up for some months of time and in various climates.

One of the most troublesome difficulties with adhesives for moistureproof cellulose sheets is to produce sufficient initial tack. With few exceptions adhesives for the moistureproof sheets do not offer as quick initial tack as is possible with the plain sheets, or with paper or boxboard. This deficiency in initial tack is cleverly offset in the design of some machines by causing the freshly glued joint to pass electrically heated hot plates, thus immediately enhancing the tackiness. Proper adhesives yield fast production with this method.

Here again, with moistureproof sheets, it makes a great difference as to whether the operation is to join the sheets to themselves or to paper or to board. Some adhesives, which will join the sheets together, have no utility whatever in joining a sheet of paper. It is possible, however, in using the proper adhesive to join the moistureproof cellulose sheets to themselves or to paper or to board, or to waxed board. Incidentally, the moistureproof sheets are not hygroscopic and hence window boxes or envelopes made with them do not warp. They stay flat regardless of weather conditions.

Cellulose acetate sheets are very different, from an adhesive standpoint, from plain cellulose sheets. Different adhesives are needed, but satisfactory ones are available which give excellent results. Here again, however, when these sheets have moistureproof coatings, different adhesives are required.

Some other considerations that offer peculiar difficulties with adhesives for the moistureproof sheets are odor, color and non-stringing characteristics. Satisfactory adhesive results with the moistureproof sheets are being obtained, however, in widely divergent industries and meanwhile constant research is producing better and better adhesives.

Adhesive operations are so diverse in modern packaging methods that there is no such thing as one best glue, any more than, for example, in industry, there is one best paint. There is probably one best kind of paint for any particular operation; similarly with adhesives. The more important characteristics which users of adhesives must consider are listed as follows:

Chemical attraction (not repulsion) to the surfaces to be glued together. Without this essential, adhesion cannot be secured.

Initial tack is usually more important than quick set because if an adhesive has initial tack sufficient to hold a seal down at once and keep it down the time interval for ultimate setting is relatively unimportant.

Quick set is important where the package is subject to stress as soon as it leaves the gluing machine, as is often the case with fibre or corrugated shipping cases.

Property of being used without heat.

Freedom from odor is important with food or other products susceptible to odor absorption.

Non-stringing characteristics are particularly important on a reciprocating type of machine which carries glue from a roller over to the package. On "straight line

gluing" as on carton-forming machines this is relatively less important.

Property of increasing the tackiness and hastening the set by application of heated plates to the glued joint.

Non-foaming characteristics are important details on high speed machines.

Proper viscosity. Various machine requirements run from adhesives as free flowing as water to heavy bodied pastes that will not flow at all.

Color on transparent wrappings is of importance.

Flexibility is sometimes necessary, other times not.

Being neutral in chemical action is necessary to prevent discoloration of printed wrappers and labels, actual deterioration of wrappers or disintegration of metal containers. These conditions sometimes are only noticeable after a considerable time interval.

Permanency of joint. Weather and climatic conditions vary greatly and tend to affect the strength of some joints. A good adhesive will perform its function and make a good bond regardless of such changes.

Waterproof qualities are sometimes very essential.

Keeping qualities. Proper adhesives do not deteriorate with age.

Cost. This last item, in the matter of adhesives, certainly belongs in the last place in any list. If packaging manufacturers paid twice the prevailing prices for adhesives, the cost of this item would still be very small as compared with other items of packaging expense. But an adhesive that fails to perform its function, slows up a production line or stops it altogether, lets packages open up on customers' shelves a thousand miles away and six months after shipment or gradually discolors labels or corrodes tin cans would be a mighty expensive item to the company if it paid nothing a gallon for it.

The manufacture of adhesives is an intricate business and the best policy for the owner or operator of modern, costly, high speed packaging machines is to state his particular problem in all its details to a reliable adhesive manufacturer who can be of real help to him out of his experience and who can supply him regularly, month in, month out, with suitable and uniform products that will perform efficiently.

CORRUGATED AND SOLID FIBRE CONTAINERS

by J. D. MALCOLMSON

A FIBRE SHIPPING CONTAINER is a tough, efficient and economical outer package built to withstand the wear and tear of freight, express and parcel post shipment. It is used for shipping all manner of commodities up to a weight limit of ninety pounds. There are two types of these boxes, both equally popular—the laminated walled "solid fibre" box and the cellular "double faced corrugated" box.

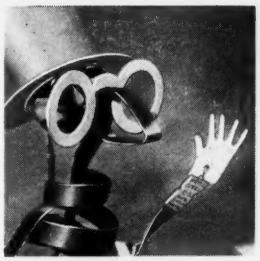
The fibre container is an evolution, partly of the ordinary paper carton, and partly of the familiar corrugated straw sheet, used, among other things, as a wrapper for bottles and incandescent lamps. Corrugated paper itself has been in use for some fifty years as an interior packing and wrapping material. More recently, one face and then two were glued to this corrugated sheet to make a rigid board; but it was not until 1903 that experimental freight shipments were made in boxes built from this combined material. In 1906 the general use of fibre containers for freight shipments was authorized by the railroads, and this marked the real start of the fibre container industry.

Economically considered, the fibre box is an important factor in forest conservation, inasmuch as only about one-sixth of its raw material is new wood pulp, the balance being largely reworked waste paper. This waste paper, moreover, usually contains a fair proportion of old fibre boxes which have outlived their period of usefulness and have found their way back to the paper mill. These savings are in addition to the billions of feet of lumber for wooden boxes that are replaced.

The average fibre box weighs only from two to three pounds, which means a reduction of shipping weight anywhere from 10 to 50 per cent when compared with the same size wooden boxes. It is shipped flat when empty, and in this form occupies about one-tenth of the space it will contain when set up.

The fibre container affords a satisfactory means for shipping fragile articles, as well as heavy commodities of relatively small size. Liquids in glass, for instance, are moved in these boxes with a minimum of breakage. The bottles are usually packed in cells formed by partitions of corrugated fibreboard. Another method of packing which is in greater demand is the "unit carton" system. Articles such as electric irons, lamp fixtures, etc., are placed in an individual carton, which also contains the necessary accessories. A certain number of these cartons, say, two dozen, are then shipped in a container, so designed that the contents exactly fill the box. The advantages of this system are that breakage is practically eliminated, the goods are received by the retailer in an attractive condition for displaying on his shelves, and the customer receives the article with its accessory fittings in a convenient and expeditious manner. Many of the larger box makers maintain elaborate designing departments, which are devoted to the devising of new and better methods of packing.

The advantages which are claimed for the use of fibre containers are as follows:



Doc. *Steelstrap*

ACME STEEL COMPANY

General Offices: 2834 Archer Avenue, CHICAGO

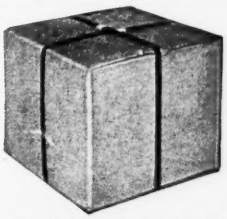
103 Park Avenue, New York City
114 Railroad Ave., S., Seattle
National Cartage Warehouse, Toronto
848 Cambie St., Vancouver

603 Stewart Ave., S.W., Atlanta
202 Davis St., San Francisco
365 St. Paul Street, W., Montreal
1934 E. 15 St., Los Angeles, Calif.

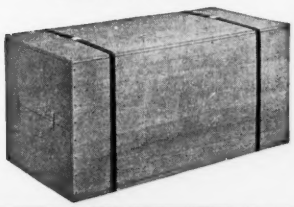
Manufacturers of Acme Steelstrap and Strapping Equipment for Package Reinforcing, Acme Silverstitch Galvanized Stitching Wire for Fibre Cartons, Acme Steel-Mesh Stainless and Galvanized Conveyor Belts.

Acme Steelstrap PACKAGE REINFORCING

For all kinds of shipping packages—boxes (wood and fibre), crates, bundles, etc., Acme Steelstrap provides increased protection and economy. Often, lighter-weight containers can be used due to the reinforcing strength of Acme Steelstrap, providing economy in both package and shipping costs.



Above—Steelstrap applied to fibre box. Below—Acme Steelstrap applied to wood box.



With Acme Steelstrap small packages can be tied into one unit, gaining a more economical express classification. Doc Steelstrap with over 50 years' experience offers a free diagnosis of any shipping package, and usually shows means of saving shippers money. Send today for a copy of the Strap-Book. Doc Steelstrap will arrange for free, no obligation, "health checkup" of your present shipping containers.



Sealed joint of Acme Steelstrap has practically same strength as strap itself.

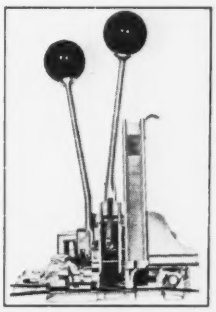


Five fibre boxes bundled into one unit with Acme Steelstrap.

ACME *Steelstrapper*

The Handiest Tool for Applying Steelstrap

Acme Steelstrapper is a one-unit tool—the only one with automatic seal feed. Magazine holds 100 seals. Two operations only to tension, seal, and cut the strap. Send today for details of this time- and money-saving tool. Other tools are also available.





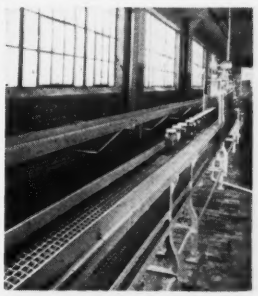
New Acme flat type conveyor belting—electro-galvanized finish.

ACME STEEL CONVEYOR BELTING

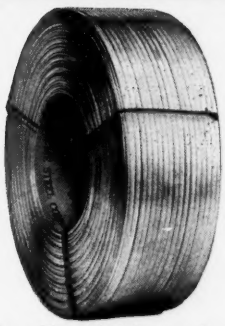
Stainless Steel or Electro-Galvanized Finish

Acme Steel Conveyor Belting is made in two types—open mesh and the new flat type. This new belt is flexible, sturdily constructed, and is made with pivot wires, completely protected from wear at any one point. The special self-locking feature assures security. Furnished with or without openings which are made to suit specific requirements for drainage and ventilation. No chance for stretching. Cleaning or repairing is easily accomplished.

Acme Steel belting of either type is the efficient and economical choice for conveying products through drying ovens, sorting, assembling, washing, etc. Available in sizes to fit virtually any requirement. Write for complete details, stating the type of application.



Acme Stainless Steel-Mesh Conveyor Belt in service in food plant.



Acme Silverstitch—One-piece 5- and 10-lb. coils.

ACME *SilverStitch*

REG. U.S. PAT. OFF.

STITCHING WIRE FOR FIBRE BOXES

More widely used than any other, Acme Silverstitch provides:

1. Unvarying accuracy in temper, width, thickness.
2. One-piece, full-weight 5- and 10-lb. coils.
3. Galvanized finish for resistance to rust.

Fast, smooth operation on stitching machines is obtained. The big coils reduce stops for coil changes. Galvanized finish helps to keep cartons and inside packages free from rust blemishes.

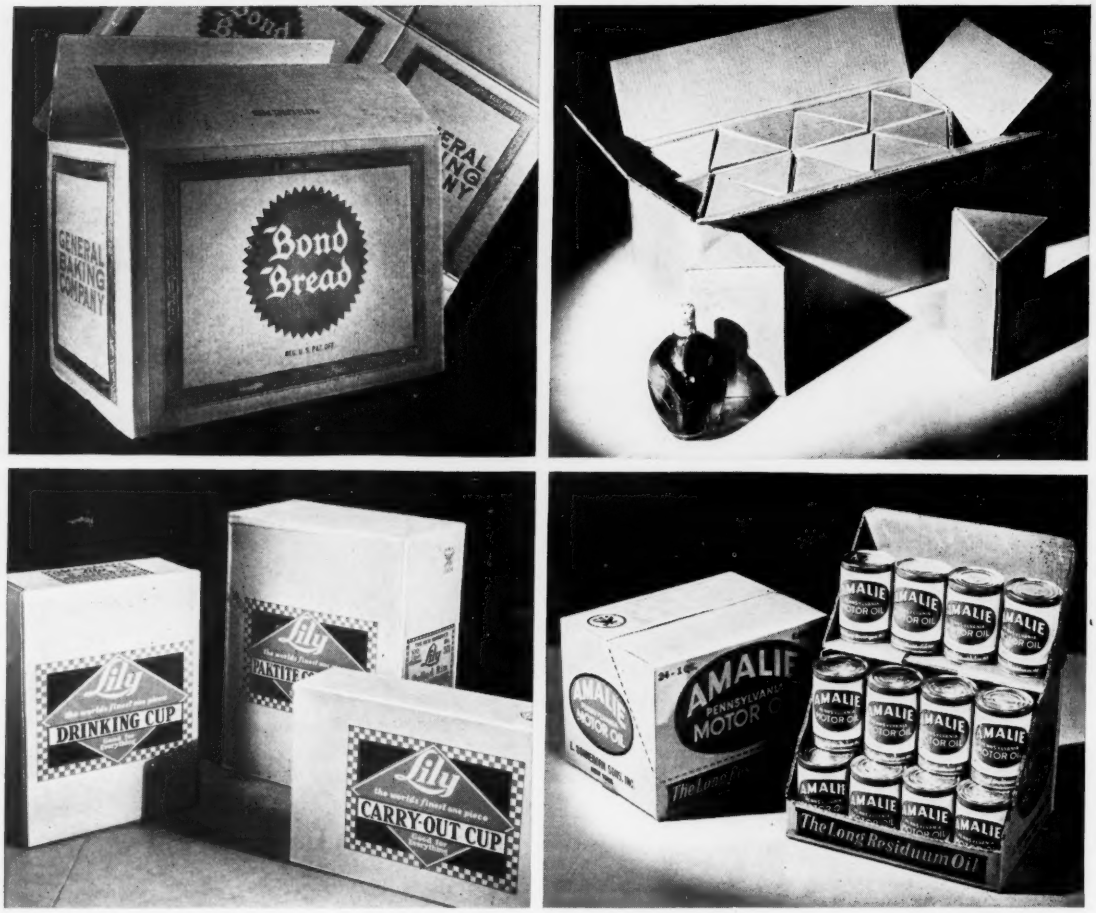
Acme "Blue Label" Silverstitch for cartons containing acidiferous products provides extra resistance to corrosion.

Shipped in special package with "no-nail" cover, Acme Silverstitch is easy to use.

In the following sizes: .103 × .014, .103 × .107, .103 × .020, .103 × .023, .060 × .024, and .060 × .0205. Write for a free test coil. State size.



Safe, secure stitching with Acme Silverstitch.



Corrugated and solid fibre containers. Top left: Corrugated fibre shipping container "or corrugated case," made of single strength, double faced corrugated board. Below: Stitched solid fibre shipping container. Top right: Corrugated container, showing interior packing, also of corrugated board. Below: Corrugated shipping case with score lines that permit cutting and folding back, thus forming a floor or counter display

First Cost—Being largely made from waste products in large quantities, their first cost is relatively low as compared with other types and styles of containers.

Weight—Tare weights are relatively low, resulting in freight savings on shipments as well as on incoming supplies of boxes.

Convenience—The absence of nails and splinters prevents injury to hands or clothing in packing and invites freight handlers to lay aside their hooks. Its relatively small size, which is controlled by railroad requirements, makes for easy handling in shipment and storage. It is often used as a shelf package and as a unit package for delivery to the consumer without re-packing.

Storage—Fibre containers are delivered flat and are stored in a minimum of space. Approximately ten of these flat cases can be stored in the space occupied by one of them when set up.

Concealed Theft is minimized, as the case, when properly sealed, must be practically destroyed to open.

Sealing is very economical, due to the development of automatic sealing machines described elsewhere.

Advertising—Being a paper product, these cases are susceptible to high grade printing in one or more colors and form a traveling billboard as long as they are in existence and can be seen.

Sanitary Features—These cases are used new and seldom re-used. Paper linings are not necessary.

Accuracy—Shrinkage, warping, swelling unknown.

Conservation—Timberlands are conserved as only a small proportion of the box consists of new wood pulp. The balance of the material includes discarded boxes re-worked into new paper.

Stacking—These boxes, due to the combination of light weight and rigid walls, can be stacked to the roof of most warehouses.

Nomenclature

Much time and correspondence are wasted through different ideas of terminology. This is in part due to the rapid growth of this industry which has not had time to evolve a standardized vocabulary.

The following list is by no means complete but it does contain most of the terms which are subject to misinterpretation:

Fibre Containers—The general term which includes both corrugated and solid fibre cases. The words "fibre" or

PROTINOL

(PASTE)

"STICKS LABELS ON TIN"

1. An adhesive paste with broad universal application—where labels MUST stick to metals and other materials, PERMANENTLY.
2. A scientific compound (non-acid, non-corrosive) yielding a bond stronger than the label, sets to a transparent, colorless film which is flexible and permanent.
3. No preliminary preparation or cleaning of a metal surface is necessary, as the adhesive "cuts" through oily and greasy films with no impairment to a permanent bond.
4. Will not discolor, stain nor bleach out colored labels.
5. Will not crack, peel, flake nor wrinkle.
6. Shipped in handy containers, prepared to the proper consistency, ready for smooth, uniform application either by hand or machine. May be thinned with water where special cases require it.

SOME OF THE PRINCIPAL APPLICATIONS

ALUMINUM	TIN, (PLAIN)	BAKELITE	*SURFACES*
BRASS	TIN, (LACQUERED)	CELLULOID	PAINTED
CHROMIUM	TIN, (LITHOGRAPHED)	FIBRES	VARNISHED
COPPER	TIN, (FOIL)	GLASS	LACQUERED
IRON	STEEL	PAPER	JAPANNED
NICKEL	ZINC	PORCELAIN	ENAMELED
		RUBBER	OXIDIZED
		WOOD	

We invite your technical inquiries and request for trial sample.

PACKED IN:

30 gallon drums	$21.00
15 gallon drums	11.25
5 gallon drums	4.50
2 gallon cans	2.00
1 gallon cans	1.25

f. o. b. Cornwall Landing, N. Y.

1% 10 days, 30 days net

The FALES CHEMICAL COMPANY, Inc.

Manufacturing Chemists

CORNWALL LANDING - NEW YORK

"fibre boxes" are often used to designate solid fibre boxes, but this is open to misconstruction.

Corrugated Fibre Containers, or usually simply "corrugated cases," generally indicates boxes made of single strength, double faced corrugated board.

Corrugated Board is a general term and may mean any of the grades named below.

Unlined Corrugated is the corrugated paper alone with no "liners" or "facings." It is usually made of 0.009 in. straw but sometimes is 0.009 in. chip and unless otherwise specified, is the usual or large corrugation, $^3/_{16}$ in. in height. It is used as wrapping material for lamp chimneys, etc., and has the disadvantage of stretching and thus losing the cushion value of the corrugations. It usually comes in rolls.

Single Faced Board has one liner which may be of straw, chip or jute and usually either 0.009 in., 0.012 in. or 0.016 in. thick. It is used for inner packing and wrapping and is usually sold in rolls 36 in. wide, 250 ft. long, weighing from 60 to 75 lbs.

Double Faced Board, or double lined corrugated, is made with two liners of straw, chip, jute or kraft and is described by the railroads as "single strength." It may be test or non-test board and cannot be rolled.

Double Strength Board is often spoken of as "double double" and "double walled," but the term "double strength" is preferable, as this is the designation used by the railroads. It is a combination of double face and single face, having three liners and two corrugations and is from $^3/_8$ in. to $^1/_4$ in. thick.

Straw Paper or "Strawboard," used for corrugations, is 100 per cent wheat straw, although rye, oat and rice straws are occasionally used. Strawboard is sometimes imported from Europe, usually from Holland. It is generally made 0.009 in. thick, for corrugating, although 0.012 in. or heavier is sometimes used for this purpose. Chestnut waste, sulphate, sulphite and fine wood fibreboard is also permitted by the railroads for corrugations, but the production of these materials is relatively small.

Chip, or Chip Board, is made from mixed waste papers and is usually 0.009 in., 0.012 in. or 0.016 in. thick. Corrugated board with chip liners is usually used for interior packing.

News, or News Board, is made of newspapers and is sometimes used in place of chip, though more expensive. The other grades of boxboard do not enter, to any great extent, in the making of shipping containers.

Liners are the facings of single face, double face or double strength corrugated board. They may be 0.009 in., 0.012 in. or 0.016 in. chip or 0.016 in., 0.018 in., 0.023 in. or 0.030 in. jute or kraft. Solid fibre liners are usually 0.016 in. jute or kraft. "Liner" is also used to describe the interior packing sheet which lines the four sides of a case and which is usually made of double faced chip or straw corrugated board. This liner is usually made in one piece with three vertical creases.

Jute is really a misnomer, as jute is no longer used in this industry. A "jute" liner is a mixture of new kraft or sulphate fibres and high grade mixed papers.

Filled Kraft Liners—These are kraft liners with a small proportion of waste paper or groundwood added.

All-Kraft Liners—These contain no mixed papers but are usually made entirely of sulphate. They are among the new developments that are to be found.

Solid Fibre is a laminated board built by gluing several piles of board together with silicate of soda and is often referred to as "fibre" or "fibreboard." (See *Fibre Containers.*) The two outer plies are made of jute or kraft. Solid fibre is usually made in 0.060 in., 0.080 in. and 0.100 in. thicknesses as called for in the Classification, but some 0.090 in. and 0.120 in. board is occasionally used in the making of shipping containers.

Single-Lined Solid Fibre—This is not often used for shipping containers but is applicable where only a single bender is required and permitted.

Test and Non-Test Board—In this industry this usually applies to board that does or does not comply with the railroad requirements on bursting strength.

Express Stock—The correct name of this corrugated board is *jute and chip* which describes its construction. At one time this was acceptable for express shipments. The express rules are now essentially the same as the freight rules except that for most items of less than 35 lbs., jute and chip may still be used.

Mullen or Cady Test—These two instruments register the bursting strength of a board, presumably in terms of pounds per square inch. Actually the results are not exactly in these proportions and for this reason many people refer to the figures as Mullen "points" or "units." Both of these instruments are official as shown in and established by Rule 41.

Webb Tester—This instrument overcomes many of the objections to the Mullen and Cady test by testing the liners of double face corrugated board separately, but it is not recognized as official by the railroads.

Rule 41 is that part of the Official Classification which itemizes the specifications for corrugated and fibre shipping containers when used for freight shipments. *Rule* 18—This does the same for express shipments in the Official Express Classification.

The Bureau of Explosives, 30 Vesey Street, New York City, issues a handbook containing express and freight container specifications for dangerous articles.

Food Administration Specifications—These are the same as the so-called *National Canners Association Specifications* and specify higher test corrugated and solid fibre cases for canned goods than are required by the railroads. They are regarded as being unofficial.

Certificate of Box Maker—This is sometimes known as the "Imprint."

The following list is not complete but covers the most important styles of boxes:

Regular Slotted Carton (RSC)—Most containers especially for freight shipments, are made in this style because of the economy of using a straight cut blank. All flaps are the same length and the inner flaps do not meet unless the length and width are the same.

Special Slotted Carton—All Flaps Meet—Also called "Center Special Slotted Carton." This is more expen-

—*An Announcement to Users of...*

• PACKAGES
• FOLDING CARTONS
• SHIPPING CONTAINERS

Continental Process transforms at *low cost* the surfaces of inexpensive papers into materials of striking beauty.

Mill run rolls of kraft, jute, chip and other carton and shipping container boards are quickly given the appearance of the most highly refined papers heretofore prohibitive in price for the usual purposes. Thus it is possible now to obtain an amazing combination of *strength* and *beauty* in packaging never before obtainable within customary budgets.

Continental Process transforms the natural surface of dull, colorless, mottled papers:

1. **By impregnating with color—vividly and uniformly.**
2. **By producing ripple-graining in variable effects.**
3. **By applying all-over patterns of trade-marks, firm names, crests or purely decorative designs.**
4. **By sealing the surface, increasing its resistance to moisture, making it less liable to abrasion.**
5. **By re-surfacing the sheet to the smoothness of expensively coated stock.**
6. **All this in one operation—economical, rapid.**

Corrugating plants, carton manufacturers and paper mills are rapidly being licensed to use the Continental Process. For complete information including specimens of transformed papers, write:

CONTINENTAL COLOR CORPORATION

3100 WEST 106TH STREET **CLEVELAND, OHIO**

sive as inner and outer flaps are of different lengths, necessitating an extra manufacturing operation with a loss of stock.

Full Overlap Slotted Carton—Also known as "Full Flap S. C." The length of the outer flaps is the same as the width of the box. The inner flaps may meet, gap or overlap. This style is usually desirable on a long, narrow box and gives added strength to any shaped container.

One-Piece Folder—This has flaps at top only and is used to pack flat material such as advertising cutouts.

Cracker Caddy—This is a special container. Usually about 10 in. × 10 in. × 11 in., made of a moisture- and grease-proof board combination. It is occasionally referred to as "can" or a "qu."

Silicate of Soda—This is an adhesive sometimes used for sealing containers and also used in the manufacture of corrugated and solid fibre board. Another name is *water glass* and it is referred to as simply "silicate."

Point—In this industry a "point" is one thousandth of an inch; 0.060 in. board is spoken of as "sixty point" board.

Height—Depth—These synonymous words indicate the distance between the openings of a box, i.e., from top to bottom. "Height" is preferable as in some industries "depth" means from front to rear. The height of a slotted carton is always the last dimension.

Girth is used in the parcel post specifications as the distance around the parcel at its thickest part.

Length in these P. O. specifications is the greatest distance in a straight line between two ends.

Nests, or Partitions, are slotted half way so that they interlock. A *Divider* is a vertical pad with no slots.

Star Cut Pad—This corrugated pad has radiating die cuts and is used to separate large glass objects, such as bowls and illuminating glassware. It is also known by such descriptive and imaginative terms as "rat trap pad" and "pie cut pad."

Die Cut Work is made on a special press and the initial cost of the die and extra make-ready must be allowed for. The ordinary fibre box equipment works in straight lines, at right angles, so that other unusual work is made on a separate cutting and creasing press.

Crease and Score are used interchangeably but "Crease" is preferable as "Score" may mean a knife cut, as it does in the set-up box industry. Such a cut score is not used in the fibre container industry.

Joint and Seam—The railroads define "joint" as the result of the operation done by the box maker in taping or stitching the fourth corner of the box; and "seam" as the juncture that is closed by tape in sealing.

Bales and Bundles—This refers to Section 4 (*c*) of Rule 5 and means that items accepted under this category may be shipped in corrugated or solid fibre containers *without* restrictions as to weight or dimensions.

Printing Plates—Solid fibre is printed from brass plates or electrotypes. Corrugated board is printed from rubber plates which are cast from type or prepared in the usual way from a wood cut.

"*A*" *Flute Corrugation* is approximately $^{3}/_{16}$ in. high, 36 to the foot; "*B*" *Flute Corrugation* is approximately $^{1}/_{8}$ in. high, 50 to the foot.

It is essential that shippers as well as box makers be familiar with the regulations. They are too voluminous to remember but one should at least know where to secure the authoritative data.

Consolidated Freight Classification No. 7, issued Aug. 5, 1932, effective Sept. 20, 1932, may be obtained for a nominal sum by writing to the Official Classification Committee, 143 Liberty St., New York, the Southern Classification Committee in Atlanta or the Western Classification Committee in Chicago.

Express regulations are governed by the Official Express Classification No. 31 issued in February 1930 and since supplemented.

The Post Office rules for parcel post are not as definite as those for express and freight. Form No. 3841 recommends the use of corrugated boxes for a number of listed commodities but specifications other than "securely wrapped" are not given. The usual parcel post weight and dimension limits apply.

There are no uniform rules for fibre containers for overseas shipments. Each steamship line makes its own rules and the stringency of these depends somewhat on the intensity of competition at the time the rules are made. The paperboard associations have done much valuable work in keeping these regulations within reasonable bounds and hope eventually to help standardize them.

Patented Types of Fibre Containers

Almost an endless number of unusual boxes have been patented, advertised and finally forgotten. Most of these are either impracticable or too expensive for the purpose intended. Those in the limelight at the present time are:

The Reinforced Score Box—A corrugated container with a strip of tape glued over the score-line, either on the inner liner or inside the board. Three different companies have patents on variations of this idea.

The Reinforced Tape Joint, in which the ends of the tape on the manufacturer's joint is split and tucked under at each end.

Burlap-Covered Box—This is a corrugated box with an outer covering of burlap cemented on with asphalt. This box, because of its strength and moisture-proof qualities, is suitable for export use.

Recessed End Box—The ends of this solid fibre box, recessed, are strengthened by the resulting stitched rim.

Bliss Box—This type of fibre container, designed by the H. R. Bliss Company, consists of a three-piece box made of solid fibre or corrugated board. The blanks are joined by means of flanges stitched in place, which reinforce the corners and all vertical seams. It is claimed that the corners and vertical edges are the vital parts of the fibre box and that when reinforced by stitched flanges, the resulting box is much better fitted to withstand the shocks and strain of handling and of transit. The box is also more rigid and can be stacked higher without bulging.

THE PRODUCTION MAN'S NEW THEME SONG-



THROW AWAY YOUR RIVETS,
AWAY WITH MESSY GLUE,
WE HAVE NO USE FOR TACKS HERE,
WITH SEWING WE ARE THRU-

We've discovered STAPLE-craft

the CHEAPER, BETTER, and FASTER way of solving your Production and Assembling Problems!

Diversification is the Keynote of Product Assembly via

STAPLE-craft



Just one of the many problems confronting production engineers that was satisfactorily and economically solved by STAPLECRAFT. Formerly these cylindrical wire screens, used in oil purifyers, were threaded together by hand, a long, tedious operation. STAPLECRAFT solved this fastening problem easily—and stepped up production 500%.



Another production problem solved by STAPLECRAFT was the permanent fastening of the quill into the bakelite cap of a bottle of nail polish. Formerly quills were glued by hand. Not only did this operation consume time, but the chemical action of the bottle contents affected the glue so that quills often came loose. A staple now holds the quill secure against looseness because it is unaffected by chemical action. Production—too—was stepped up enormously when STAPLECRAFT came into the picture.

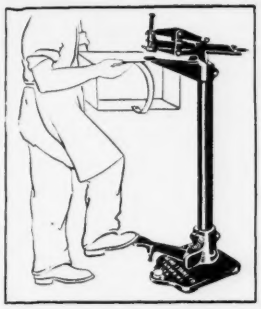
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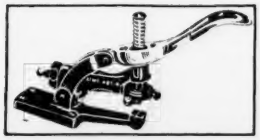
Acme's capable engineers will gladly assist you in finding a solution to your production problems. This service is rendered FREE!

ACME STAPLES ARE FURNISHED IN MANY DIFFERENT SIZES & SHAPES

THE ESSENCE OF SIMPLICITY, STAPLECRAFT EQUIPMENT IN HAND OR FOOT POWER UNITS FROM $5 TO $85 MOTORIZED EQUIPMENT $85 AND UP

Because Acme is equipped in such a way that it can manufacture machines at low cost—nearly all STAPLECRAFT machines are literally made to order. It would be quite impossible to portray here an adequate presentation of all types of Acme Staplers.





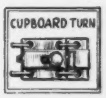
The two machines pictured here, however, will give a general idea of the simplicity of Acme staplers.

BLUNT OR POINTED, IN ROUND OR FLAT WIRE, OF MANY METALS, CLINCHING IN MANY WAYS

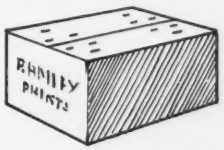
Carding and Carton Assembling Problems bow to the Versatility of

STAPLE-craft





STAPLECRAFT has led to the development of machines so versatile that it is safe to say that anything which can be merchandised on cards can be fastened to the card by staples—cheaper—better and faster. Quick changes are possible with these machines and everything from glass vials to hardware can be stapled on cards. In addition to carding operations STAPLECRAFT machines are widely used for bag sealing, lamp shade assembling, etc.



Included in Acme equipment are a complete line of stapling machines used in carton assembly. You will find Acme broad, flat wire staples safer for your bulk shipments in cartons because they are unaffected by dampness and rough handling in transit. Acme Staples have a "bull dog" grip that never gives way. Acme Staplers have been in use for over 40 years in some of the largest shipping rooms in the country.

STAPLE-craft *users include General Electric—R. C. A. Manufacturing Co.—Kimble Glass Co.—Coca Cola—Swift & Co.*

ACME STAPLE COMPANY

CAMDEN . . . . . NEW JERSEY

GUMMED TAPE

by EDGAR A. CLARK

AT ONE TIME or another several different types of processes have been employed to transfer liquid glue to the surface of cloth and paper. In the very early days of gumming the adhesive was prepared from one part of gum arabic to two parts of cold water, while a weaker solution was three parts of water, ten per cent honey and ten per cent glycerine. Originally the solution was applied with a sponge and the sheets of paper allowed to dry. Cold water was used in preparing the solution, as it kept the paper from cockling. Then followed crude machines for applying the adhesive and constant improvements since then have been made, not only in machines but also in solutions.

Today's machines apply the glue to the base stock most uniformly, of any determined thickness. The squeeze process, which is running the stock through metal rolls and the double roll transfer system is mostly used. In the double roll process, glue is picked up by the bottom roll, then picked up by the top roll and transferred to the paper running over it.

The three principal glues for making up a wide range of glue formulas (which are known as mixes) are fish, animal and dextrine. When these glues are used in number one quality nothing finer can be produced.

Dextrine is a soluble gumming substance formed from starch—it varies from a "white dextrine" composed mostly of thin boiling starch, to a highly converted brown dextrine containing an excessive amount of glucose—the cheaper dextrines are made from corn starch, the better from sago flour and tapioca flour. Tapioca dextrine from a good grade of flour is clear, with a sweet, agreeable odor. Dextrine solutions are seldom made up for a long period use.

Animal glue, as the name implies, is obtained by boiling to a jelly the hoofs, bones, skins, etc., of animals. Cold water should be used in making glue solutions. At high temperatures very little water is taken up by the glue, and at high temperatures a longer period of heating is required. Glue should soak in cold water until uniformly swollen to the maximum swelling but not allowed to set to a solid mass. Some materials used by manufacturers for preserving are alum, zinc oxide, calcium chloride, glycerine, corn syrup, etc. "Fish" glue also suggests its origin.

Contrary to some opinions, it is not the amount of glue that is put on the paper but the quality of the mix that allows instant and permanent adhesion in all kinds of weather. Flat gummed papers are carried in stock 17 × 22—500 and 20 × 25—500, or in double reams 22 × 34—500 and 25 × 40—500. Several different gummings are furnished; the cheapest from dextrines, which will stick to many smooth surfaces but has not the adhesive properties of the more expensive mixes. Flat gummed papers are used for labels of every description, printed and embossed. One of the most essential requirements is that the paper lay flat—to assist in keeping the gummed paper uniform in moisture content the modern printing plant has humidity and temperature conditions controlled.

The essential properties of gummed papers are positive adhesion, smoothness, tensile strength, bursting and tearing strength, sizing, evenness of structure, flexibility and not of less importance "durability," the latter being the papers' property to keep its strength without change for a considerable time.

The quality of paper for making the best gummed papers depends on certain properties, which should be decided on both qualitatively and quantitatively. The process of preparing the pulp, quality of the fibre and its length are factors that must be considered in obtaining pliability and strength.

As a base for the greater tonnage of gummed tape used in moistening machines, kraft paper is used and here also the raw stock governs considerably the performance of the finished product.

From large or jumbo rolls of gummed kraft paper, smaller rolls of any desired width are slit—used mostly in 35 lb., 60 lb. and 90 lb. weights basis 24 × 36—480 before gumming. Another form of gummed tape is known as stay paper and is used in the construction of set-up boxes in 90 lb., 100 lb. and 120 lb. weights, the most popular width being $^{7}/_{8}$ in. Also used in large quantities are other types of gummed tapes which have a foundation or base of cloth, holland, cambric and paper and cloth combined.

A tremendous amount of gummed tape is used in sealing various size cartons and packages—much of this tape is printed as it is an added protection against pilferage and of great advertising value.

There are several moistening machines on the market operated by hand or automatically for shipping rooms and retail counters. Their essential requisites are uniform application of water, clean and accurate cutting of the tape and speed—quick delivery of any length tape moistened thoroughly all the way through the film of glue, from edge to edge and end to end.

The taping of corrugated and fibre containers adds greatly to their strength, increases safety of contents in transit, produces neater packages and at a delivered cost under any other method for as safe protection.

Every moistening machine manufacturer will gladly furnish instructions as to how to tape packages, fibre or corrugated containers, correctly and in the cheapest and strongest way.

Williamson Adhesives are known by the companies they serve. These famous products are typical of the results obtained in high speed machine operations in sealing and labeling modern packages with Williamson Adhesives.

Adhesives For Suitability and Dependability



Williamson Cold Odorless Adhesives

No. 793 *Plain Cellulose Adhesive* for Plain Cellophane or Plain Sylphrap in joining these materials to themselves or to paper.

No. 66 *Moistureproof Cellulose Adhesive* for Moistureproof Cellophane and Moistureproof Sylphrap, in joining these materials to themselves.

No. 87 *Moistureproof Cellulose Adhesive* for joining Moistureproof Cellophane, Sylphrap, Protectoid or Kodapak to paper, box-board or waxed board.

No. 86 *Varnished Paper Adhesive* for varnished or lacquered paper in bag making, gluing cartons, attaching labels and sealing lap joints.

No. 89 *Non-Wrinkling Paste* for mounting work, attaching labels to cardboard and manufacturing glassine bags. Has minimum puckering or warping effect.

No. 44 *Case Sealing Glue* for sealing fibre or corrugated shipping cases by hand or machine. Odorless, light in color, non-foaming, efficient.

No. 47 *White Paste* for hand labeling or sealing on paper, box-board, fabrics and painted surfaces. Its non-curling action makes it useful for mounting work.

No. 53 *White Liquid Odorless Glue* for hand or machine applications with plain paper, glassine and box-board.

No. 48 *Liquid Odorless Glue* for operations with paper or box-board where quick tack and great strength are required, as in tube winding, carton sealing and tight wrapping.

No. 69 *Waterproof Liquid Glue* for spot labeling tin cans and all other metal containers. Not affected by moisture, weather, or climate. No preliminary treatment of tin or metal is necessary.

No. 70 *Liquid Carton Sealing Glue* for machine sealing of folding paper boxes and individual cartons.

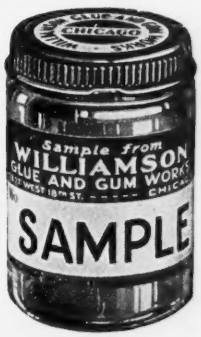
No. 74 *Waxed Paper Glue* for joining dry waxed paper to itself without the use of heat, as in sealing cartons, attaching labels, making wax paper bags, and sealing them after filling.

No. 83 *Bottle Labeling Gum* for high speed machine labeling operations where quick tack is required in handling heavy, springy labels on curved surfaces.

No. 59 *Remoistening Gum* for envelope work and spot gumming. Dries with a bright sheen and becomes instantly adhesive when moistened.

This is a partial list of the Williamson line.

Free sample will be sent of any glue in which you are interested.



WILLIAMSON GLUE AND GUM WORKS
2350 West Eighteenth Street Established 1914 **Chicago, Ill.**

We do not believe there is any substitute for quality

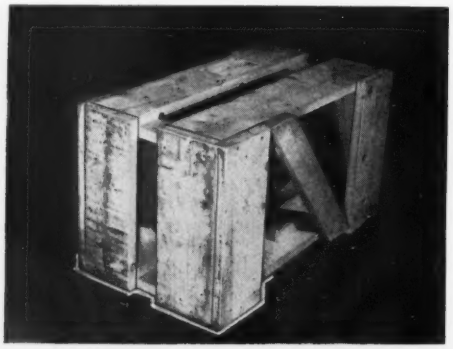
METAL STRAPPING

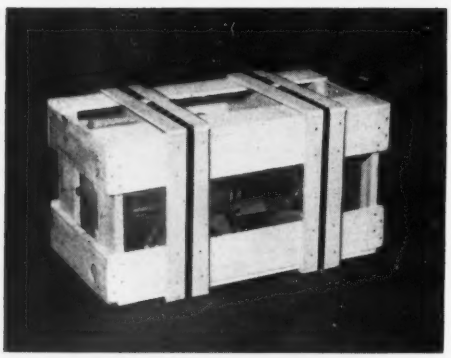
by V. C. HOGREN

TO STEEL STRAPPING may be given the major credit for the low cost of safely carrying the nation's products. Practically every conceivable type of pack—ranging from small parcel post packages to carloads of sheet steel—can be made more secure and can be shipped more economically when steel is employed. These economies are possible through lower container costs and freight charges, as well as the elimination of damage and pilferage losses.

The Federal Government[1] recognizes the value of steel strapping as an aid to economical distribution, for its suppliers are permitted to use less expensive boxes when properly reinforced with steel strapping. Another bulletin,[2] this one issued by the Forest Products Laboratory of the U. S. Forest Service, states "The thickness of lumber required . . . in a nailed wooden box to give it adequate strength . . . may safely be reduced 20 to 40 per cent if the box is properly bound with metal straps."

[1] Federal Standard Stock Catalog Sec. 4, Part 5 (N N-B-621).
[2] Technical Note No. 183, Forest Products Lab., Madison, Wis.





Packing of 157-lb. motor "before and after." New crate (below) has 48 per cent reduction in weight, 20 per cent savings in cost

Freight classification rules often require the use of steel strapping on bundles and bales as well as on many specific articles. This also applies to widely diversified export packs which are of necessity reinforced to prevent damage and theft. However, domestic shipments account for the largest percentage of strapping applications.

Two kinds of steel strapping are available: nailless and nailed. The latter, which is nailed to containers, is rapidly being displaced with the nailless type which can be applied quicker and more effectively. Tools made for the purpose, tension and seal the strapping on wood cases, crates, cartons, bales, bundles and skids. Each of these groups is briefly discussed below.

Strapping on Wood Cases and Crates

Obviously the strength of these containers is considerably enhanced with steel strapping. So much in fact that the lumber in cases and crates can often be safely reduced by a minimum of 20 per cent. Frequently the reduction is greater and attractive savings in costs accrue. Specifications made by container redesign laboratories frequently include steel strapping for protection and added strength. Since shipping cases are made lighter there is further economy in lower transportation bills. Of most importance however is the elimination of damage and pilferage: twin evils in present day merchandising.

Although hundreds of examples could be cited, the accompanying illustrations indicate typical results and are aptly termed, "Before and After." In another case a pump manufacturer saved 63 cents on each unit with a scientifically redesigned crate reinforced with strapping. Such results are not unusual and of course are revealed on the profit side of the ledger.

If one strap is recommended it should be centered on the box. When two straps are used each is placed one-sixth the distance from either end. Three or more straps may be suggested on long cases and there are conditions under which straps are placed at right angles. The tension applied on the straps by the tensioning tool or stretcher (as it is commonly known) should be sufficient to cause the straps to cut into the edges of the box.

Strapping on Cartons

Both fibre and corrugated boxes can be made more secure with steel strapping and the straps often serve not only as a reinforcement but as a means of closure. Hence by merely snipping the straps, the package can be quickly opened, without damage to the carton. This is a decided advantage when the contents are to be inspected or altered and the same container used for reshipment. Here again claims for loss and damage to products are

BOSTON-BLISS-LATHAM

WIRE STITCHING MACHINES

FOR ASSEMBLING AND SEALING

CORRUGATED AND FIBRE SHIPPING CASES

Equipment for Stitching Set-Up and Folding Boxes, Telescope Boxes, Display Cartons, Shopping Bags, Book Matches, Milk Bottle Caps, Pocket Books, Belt Loops, Luggage, Toys, and a large variety of other Products.

SOLD AND SERVICED BY

DEXTER FOLDER COMPANY

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New York, N. Y.

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117 W. Harrison Street

PHILADELPHIA
5th & Chestnut Streets

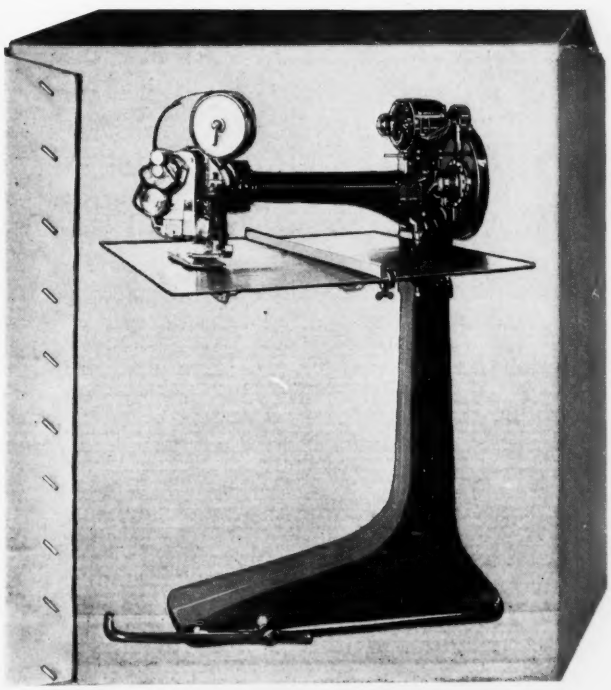
BOSTON
185 Summer Street

CLEVELAND
1931 East 61st Street

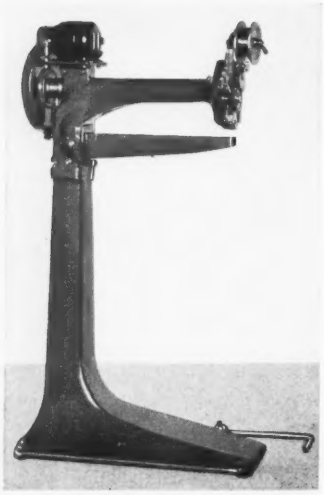
ST. LOUIS
2082 Railway Exchange Bldg.

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San Francisco—Los Angeles—Seattle



BOX STITCHERS



Bliss Heavy Duty Box Stitcher

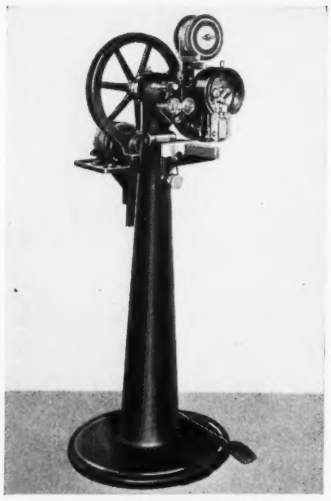
Built for heavy duty work on all grades and thicknesses of boxboard used for corrugated and solid fibre shipping containers; also suitable for telescope containers, suit boxes, set-up boxes, folding boxes, cracker caddies, display boxes, etc.

Clearance between the stitcher head and clinching anvil, $1^{5}/_{8}$".

May be equipped with tables or gauges.

Bliss 90° or 45° Stitcher Head; uses standard ribbon and Hybar wires, also other flat and round sizes.

Three throat lengths—15", 25" or 33".



Latham No. 20 Box Stitcher

Equipped with Latham Roll-Feed Head. A moderate priced machine designed for stitching the regular run of boxes, containers and bags used by mail order houses, clothing, rubber and metal trades manufacturers, and similar industries. It will stitch any box requiring an arm length of 12 inches or less.

The machine uses 0.020 and 0.017 ribbon, or No. 20 × 25 bookbinder's wire, and stitches at speeds up to 300 per minute, with standard $^{1}/_{2}$" crown. Capacity $^{3}/_{8}$".



Boston No. 10 Box Stitcher

A light model machine equipped with the Boston No. 26 Narrow Stitcher Head. Adapted for light stitching operations, either on boxes or flat work such as bag sealing and attaching articles to cards.

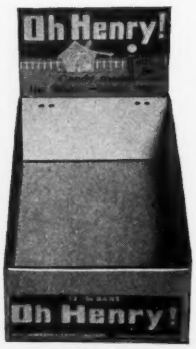
Wire used, 21 × 25 flat or 21 to 25 or 25 to 28 round. Work up to $^{1}/_{4}$" in thickness may be stitched. Crowns may be furnished for $^{3}/_{8}$" or $^{1}/_{2}$".

Machine may be equipped with standard table. Distance from stitch to inside edge of frame is 10 inches.

EXAMPLES OF BOX STITCHING



Hardware Box, Stitched on Box Stitcher



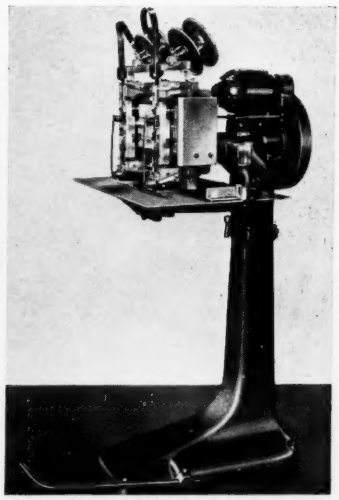
Display Box, Stitched on Box Stitcher



Folding Suit Box, Stitched on Box Stitcher



Shopping Bag, Stitched on Box Stitcher



Boston Double Head Stitcher

Uses No. 15 Type Heavy Duty Boston Stitcher Head. Heads are adjustable sidewise, with a minimum spacing of 3" from center to center, and maximum spacing of 16" apart. Uses $^{1}/_{2}$" crown stitch, and stitches work up to $^{1}/_{2}$" in thickness. Drives all sizes of ribbon and Hybar wire, also other flat and round sizes.

Used for stitching suit boxes, cartons and other types of folding or set-up boxes, and for any other stitching requiring two or more stitches uniformly spaced.

Available with solid clincher or moving clincher as ordered.

DEXTER FOLDER COMPANY
28 West 23d Street, New York, N. Y.

BOTTOM STITCHERS



Bliss Bottom Stitcher

Equipped with the Heavy Duty stitcher head. Recommended for stitching the bottoms of regular slotted containers, Bliss Collapsible boxes and many other purposes, where maximum production is required.

The rugged construction of the Bliss Bottom Stitcher assures long service on heavy duty work.

Built in two sizes: 15″ or 25″ throat.

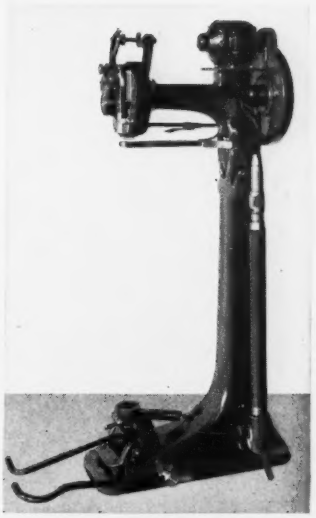


Bliss Duplex Bottom Stitcher

Drives two stitches simultaneously, enabling a production of 50% to 60% greater than is possible with single head stitchers, without increasing labor cost.

One operator can stitch 6 to 12 boxes per minute. With two operators as many as 18 boxes per minute can be stitched.

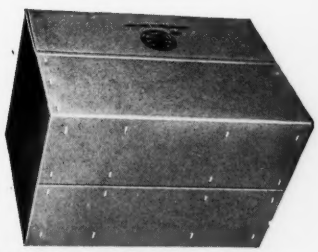
Built in one size with 15″ throat length.



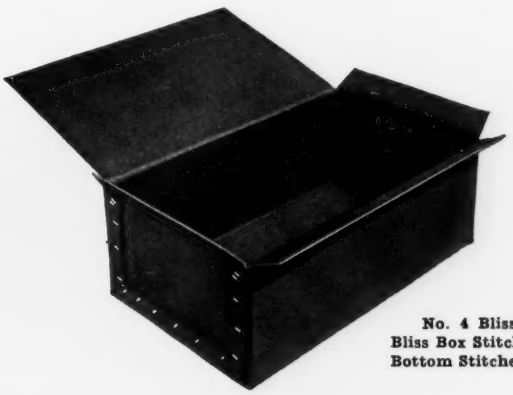
Bliss Box and Bottom Stitcher

This is a general purpose machine popular in plants using both Bliss No. 4 boxes and regular slotted containers. The former can be assembled on box arm; the latter can be bottom stitched on post. Change can be made in one minute.

Built in two sizes, with 15″ and 25″ throat, respectively.



Regular Slotted Container, showing bottom stitched on Bottom Stitcher



No. 4 Bliss Box Assembled on Bliss Box Stitcher or Bliss Box and Bottom Stitcher

SOME TYPES OF WIRE STITCHING



1. Staple through corrugated box board using solid clinchers.



2. Staple through solid fibre box board using solid clinchers.



3. Staple through solid paper, using moving clincher.



4. Staple through soft material, using "pass by" solid clincher.



5. Raised staple to allow fixed space under crown.



6. Staple with one leg longer and turned out for fastening.



7. Ring type staple to bind end of rope, etc.



8. Stitching two materials together without clinching staple.

TOP STITCHERS



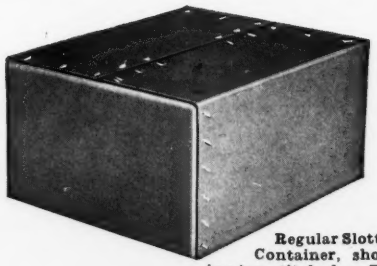
Bliss Power Lift Top Stitcher

Recommended where large numbers of heavy containers are used and is especially suitable for conveyor installations, as it is adjustable to coincide with conveyor line.

Equipped with a power driven work table. Table automatically stops in just right position for top stitching. One motor operates power lift and stitcher. A steel work table equipped with steel ball bearings permits free movement of container while being stitched.

Equipped with Bliss Heavy Duty Stitcher Head.

Built in one size, with 33″ throat length. Table size 26″ × 40″.



Regular Slotted Container, showing top stitched on Top Sealing Stitcher



Bliss No. 4-2 Box—Sealed



Bliss Quick Lift Top Stitcher

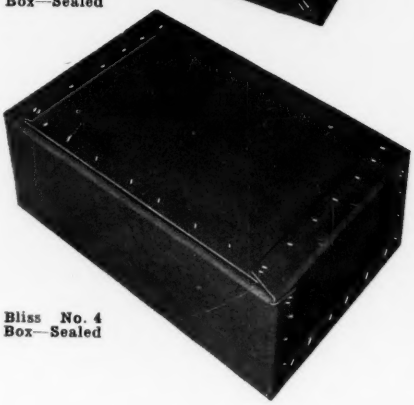
Used for wire stitching the tops of regular slotted containers and Bliss Boxes.

The steel table is supported by the Bliss quick lift mechanism which is positive in action and instantly adjustable up and down. Raising and lowering of table is facilitated by the use of counterbalancing steel springs.

Equipped with Bliss Heavy Duty Stitcher Head.

Built in three throat lengths—15″, 25″ and 33″, accommodating boxes up to 33″ long, 33″ wide and 28″ deep.

Table sizes: 26″ × 30″, 26″ × 40″ and 30″ × 40″.



Bliss No. 4 Box—Sealed

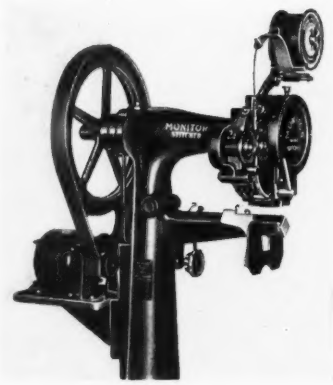
CORNER STAY STITCHER

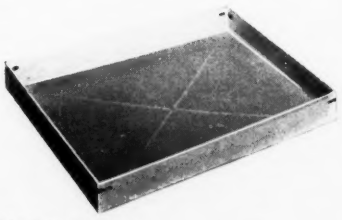
Latham Corner Stay Stitcher

The Latham Corner Stay Stitcher places a right angle stitch around corner of box.

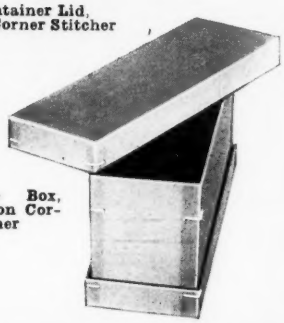
The machine is used for hardware packing boxes, cracker caddy covers and boxes for other purposes; also for strengthening the higher grade set-up boxes which are later covered with paper. Straight cut-off or pointed stitch is optional.

Distance from stitch to inside of frame is 12″. Wire used is .017 to .020 ribbon, or No. 20 × No. 25 flat.





Caddy Container Lid, stitched on Corner Stitcher

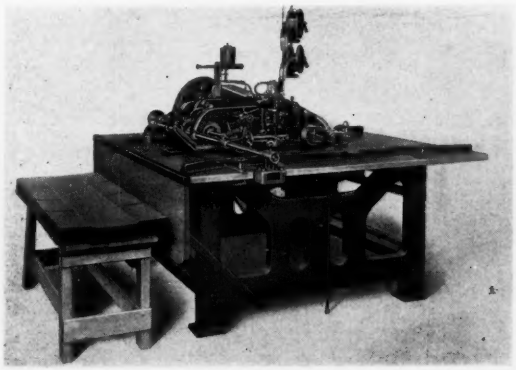


Hardware Box, stitched on Corner Stitcher

DEXTER FOLDER COMPANY
28 West 23d Street, New York, N. Y.

REGULAR SLOTTED CONTAINER STITCHERS

Latham Automatic RSC Stitcher



This stitcher is used in large box making factories where high production, large volume, uniform spacing and maximum efficiency are necessary. Recommended for corrugated and solid fibre boxes and is particularly suitable for handling the seasonal demands for cases used for shipping canned goods, food products, bottled goods, etc.

Production varies from 1200 to 2500 containers per hour.

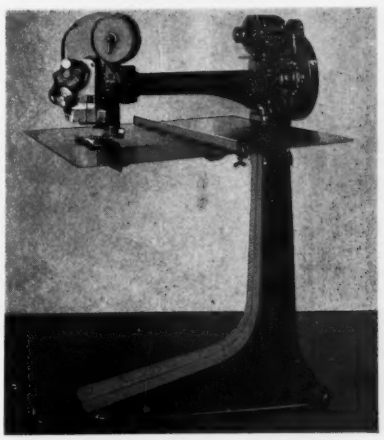
Drives a single or double row of stitches, or a single row of stitches with tie stitches at each end, at speeds up to 360 revolutions per minute. The stitch is driven at a 45° angle.

Feed table as shown in illustration with work on stand is used with only one operator, who picks up the blanks, folds them and lays them in position for automatic feeding. Wing of table may be raised in position for handling large blanks, in which case two operators are used, one folding the blanks and the other feeding.



Regular Slotted Container, side stitched on RSC Stitcher

Bliss Diagonal Head RSC Stitcher



Drives the stitch at an angle of 45° to the manufacturer's seam. Is a particularly desirable machine for stitching corrugated or solid fibre containers.

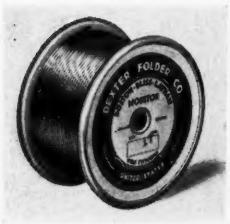
Operates at speeds of 300 to 400 stitches per minute. As many as 10,000 containers with five stitches are frequently produced in a day's run.

Equipped with the Heavy Duty Stitcher Head. Clincher arm does not rest on box blank at moment of stitching, which feature eliminates crushing of corrugations or denting the board. A parallel gauge table may be furnished. Gauge is adjusted in one movement and is always in correct parallel position.

Built in 32", 38" and 48" throat lengths.

STITCHERS FOR SPECIAL PURPOSES

Wire Stitching Machines are adapted to many special uses—such as fastening various articles to cards, Belt stitching, Milk Bottle Caps, Pocket Books, Luggage, Toys and other Products. Correspondence is solicited on any stitching problem you may have.



PARTS, WIRE, AND MECHANICAL SERVICE

All Dexter Offices carry replacement parts for all types of Bliss, Boston and Latham Wire Stitching machines, and are prepared to render prompt and efficient service on any of these makes of stitchers.

A stock of all the usual sizes of box stay and bookbinders' wire is available at all offices for prompt shipment.

Your orders for parts, service, rebuilding and wire are solicited.

DEXTER ENGINEERING SERVICE

Every manufacturer has some condition in his shipping department that may be improved or changed to his advantage either for greater efficiency or for economy.

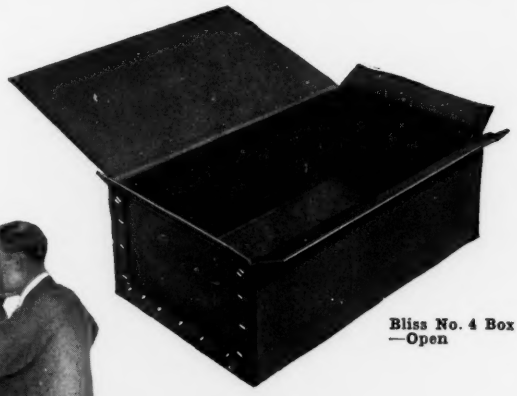
The Dexter Folder Company maintains a corps of engineers who have had extensive experience in packaging and preparing for shipment a great variety of products.

The services of our organization are available, without obligation to you, for making a survey of your packing and shipping departments to determine the most economical methods of handling and protecting your goods while in storage and transit—when they are no longer under your control.

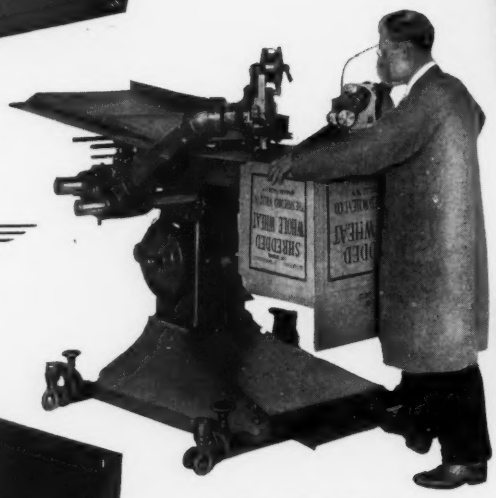
TYPES OF BLISS BOXES



No. 2 Bliss Box
—Open



Bliss No. 4 Box
—Open



BLISS DOUBLE HEAD
ASSEMBLY STITCHER
For Assembling No. 2 and
No. 4-2 Bliss Boxes



Bliss No. 4 Box
—Sealed



No. 2 Bliss Box
—Sealed

THE SAFEST SHIPPING CONTAINER

Packing goods in BLISS BOXES assures the manufacturer of the greatest possible margin of safety to his goods while stored and in transit. The three-piece construction, with all vertical seams reinforced, makes the BLISS BOX the strongest corrugated or solid fibre container obtainable.

The special method of construction of the Bliss Box offers greatly increased resistance to all types of stresses, whether from within or without the box.

The various types of Bliss Boxes comply with all of the requirements of Rule 41 of the Consolidated Freight Classification.

LOW IN COST

Bliss Boxes are economical because they contain no waste stock. The saving in material and freight charges reduces the total cost an average of 10% and in some instances as much as 20% when compared with other types of fibre containers. The extra strength of the BLISS BOX also often permits the use of lighter board which effects an additional saving.

EASY TO OBTAIN, ASSEMBLE AND SEAL

Blanks for BLISS BOXES are manufactured under license by nearly all leading board mills and box factories in the United States and Canada and are therefore as readily obtainable as other types of shipping containers. A complete list of licensed manufacturers will be furnished on request.

Equipment for easy, convenient assembling and sealing of BLISS BOXES is furnished by the Dexter Folder Company, a fifty-three-year-old concern, with sales and service offices in New York, Chicago, Philadelphia, Boston, Cleveland, St. Louis, San Francisco, Los Angeles and Seattle.

TYPES OF BLISS BOXES

The most popular types of Bliss Boxes are the No. 2, No. 4 and No. 4-2 models.

When No. 2 Box is assembled, the flanges form a double thickness of board on all vertical seams on the sides, and on horizontal seams at each end of the box.

When No. 4 box is assembled the three flanges form a double thickness on the ends, which gives added protection for canned goods and other commodities where an end thrust of the contents is to be guarded against.

The No. 4 box is doubly protected on all four corners and top and bottom of each end. It is the strongest Bliss Box and is desirable for carrying heavy loads, or where extreme rigidity is required for protection of contents.

Dexter men who have a wide knowledge of shipping requirements for many products will be pleased to discuss the advantages of Bliss Boxes and equipment for assembling and sealing them, at your request and convenience.

DEXTER FOLDER COMPANY
28 West 23d Street, New York, N. Y.

prevented. The same general rules given for strapping wood boxes and crates are also applicable to cartons.

Only through the use of steel strapping is it possible to take advantage of the ease and economy of employing fibre or corrugated wraps instead of containers on some commodities. It would be well for shippers to investigate the freight classifications on their products as it may be possible to obtain lower rates with steel strapping.

Strapping on Bales and Bundles

The security of compressed bales is due almost entirely to straps. In fact the textile industry was one of the first principal users of steel strapping. The number of straps on a bale depends upon its size, weight and the amount of compression exerted by the baling press. Bundling also offers exceptional possibilities for savings. This field seems unlimited but can be divided into three general groups:

1. *Bundling of several packages into a unit.* Two or more cartons or wood boxes can be strapped to make a single package. The advantages of this method are evident as only one shipping label is required—handling is speeded up and none of the boxes can become lost or separated from the rest. Theft of smaller packages is eliminated and the fewer units handled frequently results in lower traffic costs.

2. *Bundling to eliminate containers.* This type of bundling can be applied to a number of products which do not actually require a package. Both the container cost and freight on its tare weight are saved through the use of steel strapping.

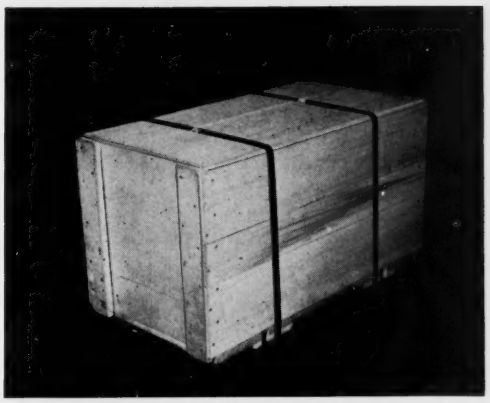
3. *Classification of cartons and fibre wrapped packages as bales or bundles.* Carriers permit steel strapped cartons and fibre wrapped packages of some commodities to be classed as bales or bundles, and consequently lower freight rates are obtained by the shipper. This is only possible when a steel reinforcement is employed.

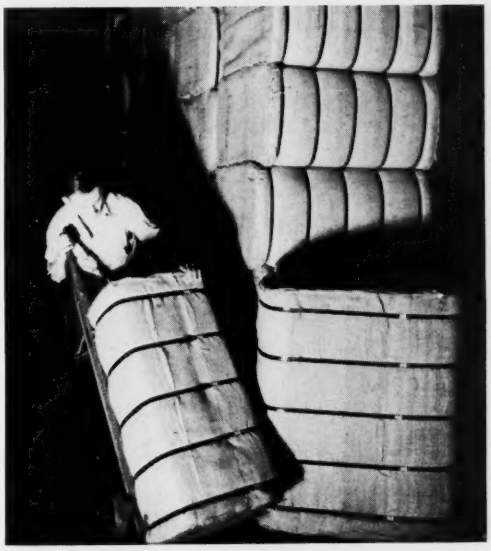
Steel Strapping on Skids

This is the most advanced method of shipping merchandise. Although paper has been skid loaded for years, the range of products now benefited extends to bricks, motors, tin plate, lumber, tubing, etc. With this system the commodity is strapped to an inexpensive skid or pallet. Hand or power trucks quickly move the unit which would be too heavy for manual handling. Space is conserved when skids are stacked on one another. Steel strapping makes the skid idea possible and profitable to both shipper and receiver.

Unit Loading of Lading for Carload Movement

Steel strapping is employed for bracing carload freight —both straight and mixed loads. Lading is banded into two half-car units which are allowed to shift thereby absorbing rather than resisting the shocks of transportation. Damage is reduced and less time is consumed in loading and unloading. The consignee needs only snip the straps to unload.







Top: Steel strapping on wood boxes prevents damage and concealed theft. Center: Steel strapping applied to bales. Below: Motor truck load of coiled strip steel on skids to eliminate handling of each coil

Rapid strides have been made in the development of tool equipment for strapping all types of commodities. One manufacturer has a tool which tensions, seals and cuts the straps with the added feature of an automatic seal feed which applies one hundred seals without reloading. Supplementary equipment such as reels, stands and strapping tables can also be had for speeding up the strapping job.

WIRE STITCHING

by G. PRESCOTT FULLER

ASSEMBLING AND SEALING containers by means of wire stitching is much used because of the ease of its application and the strength and security of the joint, each stitch giving a positive closure of the flaps. No setting time is required as when adhesives are used, and relatively cheap labor can be employed. Furthermore, if warehousing and repacking are desired, the stitches can be removed with a screwdriver or special tool without appreciable damage to the case, whereas a box with glued joints cannot be opened without serious tearing of the flaps. The method is economical, as inexpensive machinery is needed, and wire stitches cost only from three to five cents per thousand. Wire stitching is of general application, irrespective of the size of the container, the construction of the flaps or the kind of board of which it is made.

All wire stitching machines are variants of the simple box stitcher, which comprises a stitcher head, a body or frame supporting the head and also containing the driving mechanism, a base supporting the body and a horizontal arm for holding the work, the end of the arm containing the clinching device. Stitching heads are of two general types, in one of which the wire is fed from the side while in the other the wire is fed from the top. Both types are constructed with means for feeding the wire and cutting it in predetermined lengths, receiving the piece of wire and transferring it to the bending mechanism, bending the ends of the wire to form legs, and driving the formed stitch through the work, a supporter being provided that supports and guides the stitch while being driven. The arm contains a grooved clincher which receives the legs of the stitch and bends them inward and tightly against the under side of the work being done.

Stitcher heads with side wire feed are usually employed for stitching containers since they can be more ruggedly constructed, while the vertical feed type is used for multiple head work because the heads can be placed closely together.

The clinching arm is quickly adjustable, up or down, to accommodate varying thicknesses of work and the wire feed is also instantly adjustable. Angle arms can be obtained for handling special classes of work, and adjustable gauges of various sorts can be had for facilitating repetitive operations. Machines are available with the stitcher head set at an angle so that stitches can be driven at 45 deg. to the grain or the corrugations of the board.

Many different sizes and shapes of wire may be used, also the width of the crown can be changed, provided the proper parts are installed. The ends of the wire can be cut square or at an angle of 45 deg. as desired. The wire usually employed is of copperized or galvanized steel, .103 in. wide and .017 in. or .020 in. thick. Another type of wire is 0.60 in. wide, and .020 in. or .024 in. thick. The number of stitches of average length per pound of wire will run from 1600 to 2500, and the cost from three to five cents per thousand. Stitching wire comes on 10-lb. spoolless coils, an aluminum spool-holder being used in setting it up on the machine. The usual crown length is $^3/_8$ in. or $^7/_{16}$ in., although for some purposes longer or shorter crowns are employed.

The following sections describe the more usual applications of wire stitching in the assembling and sealing of containers as now practiced.

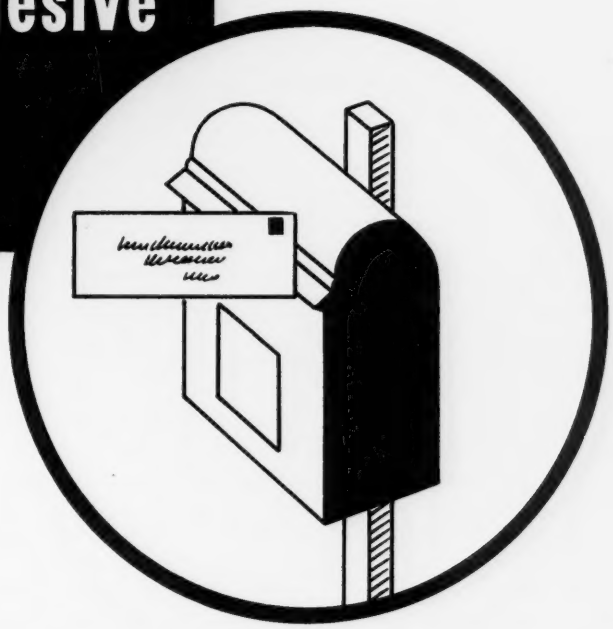
Box stitchers are used for stitching the manufacturer's seams of regular slotted containers. This operation can be performed on a standard box stitcher, the work being pushed along the arm as stitched, and the finished box afterward withdrawn. The box may also be folded over the arm and stitched as it is being withdrawn towards the operator. There is some advantage in making up boxes in this way in that the flange may be more accurately positioned along the adjacent side than when the box is folded on the creases and then stitched. Stitches are placed $2^1/_2$ in. apart, with tie stitches very often used at each end of the seam, although on boxes less than 18 in. in depth the classification permits a maximum spacing of 3 in.

It is better practice to use the so-called "slotted container stitcher" for this operation, this machine being equipped with a table on which the blank rests, and also an open head device (or clincher tongue) bolted to the stitcher head and rigidly or semi-rigidly supported thereby. The open head device is merely a double guiding member and clincher arm which holds the stitching flange and the opposite side panel in proper position during the stitching. The box blank is folded along two opposite creases so that the flange overlaps the adjacent panel, the flange and panel being guided through the open head and then stitched. The finished box is removed from the discharge end of the machine, thus making a continuous operation.

For stitching corrugated boxes, it is preferable to have the stitches diagonal to the corrugations to give greater holding power, and machines up to 48 in. in throat length are available for this work. The operation is carried on in the same manner as when the straight head machine is used.

Automatic R. S. C. stitchers are often used for this work where long runs of one size are involved, the machines having one stitcher head set at an angle of 45 deg., and which in some cases is of the duplex head type to permit driving double rows of stitches, or tie stitches at each end of the seam. The machine is equipped with

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devices which first stitch in proper position, and space the other stitches evenly and in predetermined number, the finished box being ejected by means of high speed rollers at the rear end. The machine is quickly adjustable for different sizes of boxes, and two operators can easily turn out 30 to 35 boxes per minute having five stitches in the seam. Larger boxes naturally require more time.

Three Piece (Bliss) Boxes

One style of three piece box has the stitching flanges made a part of the body blank and is usually assembled on a box stitcher, a hub being placed over the end of the arm which forms a guide or spacer to bring the stitches at the center of the flange—a panel holder also being furnished for convenience. The operator first pushes the top flap of one end panel into the panel holder, then folds up the body blank into shape and pushes the same over the end panel. By holding the sides firmly in the hand the end panel is also held in position, and the box placed over the stitching arm and the bottom flange attached by means of a single stitch in the center. The three flanges are now stitched, tie stitches usually being placed at the top and bottom of the side flanges for greater strength. When offset slotting is used, with the bottom corners overlapped, a stitch should be placed as close as possible to the overlap, and double stitches in the overlap itself. A machine with a V arm may also be used, in which case the stitches are placed at an angle of 45 deg. to the grain or corrugation of the board, which gives a stronger joint.

Another type of this box has the stitching flanges made a part of the end panels, and is assembled on a special double head stitcher with 45 deg. heads. A movable and adjustable work table is placed between the stitcher heads, the edges of the table serving as guides in the assembly of the box. The first step consists in laying the body blank on the table with one top flap bent down in front of the operator, who holds the two end panels in position against the sides of the table so that the stitching flanges overlap the first side of the box in proper position for stitching. One stitch is placed while the table is in its outward position, the table pushed in and the remainder of the stitches placed in order, automatically spaced. The body blank with the ends attached is then moved forward and bent over the end of the table, thus presenting the bottom for stitching. The flanges on the bottom of the ends are folded in place and stitched as before. The third operation is a repetition of the second and completes the assembly of the box.

The second style of box can also be assembled on a V arm machine, one side at a time, but the speed is less than when a double head is employed.

Recessed End Boxes

These may be stitched on regular box stitchers equipped with a gauge to properly position the stitches in the center of the flanges. If desired, an adjustable table can be placed below the clincher arm to support the box while being stitched, especially after it has been filled with the product to be shipped.

Telescope Boxes

The blanks for heavy telescope boxes are received flat by the customer and may be creased twice at each corner, with diagonal slotting, so that the corner flaps fold up in triangular form, either against the ends or the sides of the box as desired. This construction is shown in Fig. 1 and Fig. 2.

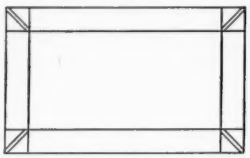


Fig. 1



Fig. 2

The flaps are stitched on a box stitcher in the manner shown, the number of stitches placed depending upon the weight and character of the contents. Sometimes one of the triangular flaps is folded outside of the end, and the other inside of the side, both being stitched in place to give added strength. Another method of making up such boxes is to crease and slot the corners so that when assembled, rectangular corner flaps are formed which are folded up against either the end or the side of the box as desired. This construction is shown in Fig. 3 and Fig. 4.

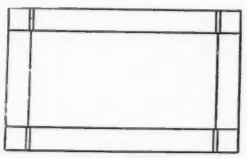


Fig. 3

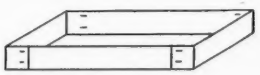


Fig. 4

Folding Suit Boxes

These are usually stitched by hand on single head box stitchers provided with gauges. Duplex head, or multiple head stitchers may be used, however.

Wood End Boxes

Wood cleats are frequently applied to the end panels of three piece boxes; also panel boxes are often made up with wood frames and fibre sheets. The wood is usually $^{5}/_{16}$ in. to $^{3}/_{8}$ in. in thickness, and the board may be .100 in. or more thick. This combination of materials can be stitched on a standard box stitcher, but a special wire draw gear may be required in order to form staples with a sufficient length of leg to penetrate the wood and fibre and clinch on the other side.

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The covers on this catalogue are made of **Monroe Board**
-- a **Solid Binders Board** *manufactured by Consolidated Paper Co.*

Cracker Caddy Covers

The covers of the familiar cracker caddy are about 10 1/2 in. square, with flaps that are from 3/4 in. to 1 in. wide. The flaps may be arranged in two ways, as shown in Fig. 5 and Fig. 6.

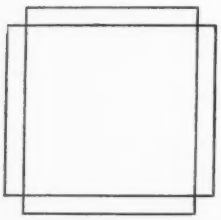


Fig. 5

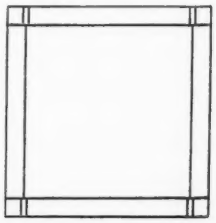


Fig. 6

When the corners are cut out as in Fig. 5, the covers are stitched on a corner stay machine, using a stitch that has the crown bent at an angle of 90 deg., one leg being clinched in each flap. The driver is cut out in the center at an angle to drive the stitch with a 90 deg. angle crown, and a moving clincher mechanism is employed that clinches the staple legs flat against the flaps, which are brought tightly together. The arm of the machine is also shaped with a 90 deg. angle. In practice the operator sits in front of the machine and stitches the four corners in succession, frequently working at a rate of 15 or more covers per minute.

While the usual type of caddy cover is cut out at the corners, the one shown in Fig. 6 is sometimes used. This involves no more material, but makes use of the corner pieces (cut out in the other type) to strengthen the corners of the cover, slotting being employed.

Shopping Bags

One important use of box stitching is found in the attachment of handles to paper shopping bags. The handle itself is made of twisted fibre stock about 1/8 in. to 3/16 in. in diameter. The handle is bent to shape and placed in position with the two ends overlying the folded top of the bag, and two stitches are placed in each end to hold the same to the bag, a strip of fibre board being often inserted under the fold to increase the holding power. Standard box stitchers, fitted with gauges, are employed, but the bottom of the driver has a round groove cut in it which fits over the handle of the material, the driven stitches thus presenting a neat appearance and at the same time holding the handle securely.

Bag Closing

The tops of filled paper bags are often closed by wire stitching, using standard box stitchers. The top of the bag is either folded over once, or a double seal fold may be used, and two or more stitches inserted, fine wire such as No. 20, No. 25 or No. 1 Hybar being ordinarily used. A sufficiently light wire should be employed so that when the joint is pulled apart the wire will be held in the bag material and not loosened so that it can fall into the bag.

The sealing of heavy bags is best done on a machine with a horizontal stitcher head, the stitches being driven horizontally instead of vertically as usual. A table equipped with rolls is placed under the stitcher, or a standard conveyor is used, on which the bags stand with the flaps at the right height for closing. The top flaps are folded down and guided into the stitcher head between the driver and the clincher, using a bent sheet metal guide for that purpose.

Miscellaneous Uses

Box stitchers are also used for a wide variety of other operations such as attaching articles to cards; fastening sheets of insulating strips together; holding the ends of gaskets; assembling box specialties; stitching the ends of fibre drums; forming attachment hooks on automobile upholstery; attaching canvas backs and seats on lawn and porch furniture; and for assembly of berry baskets, display boxes, pastry containers and book matches.

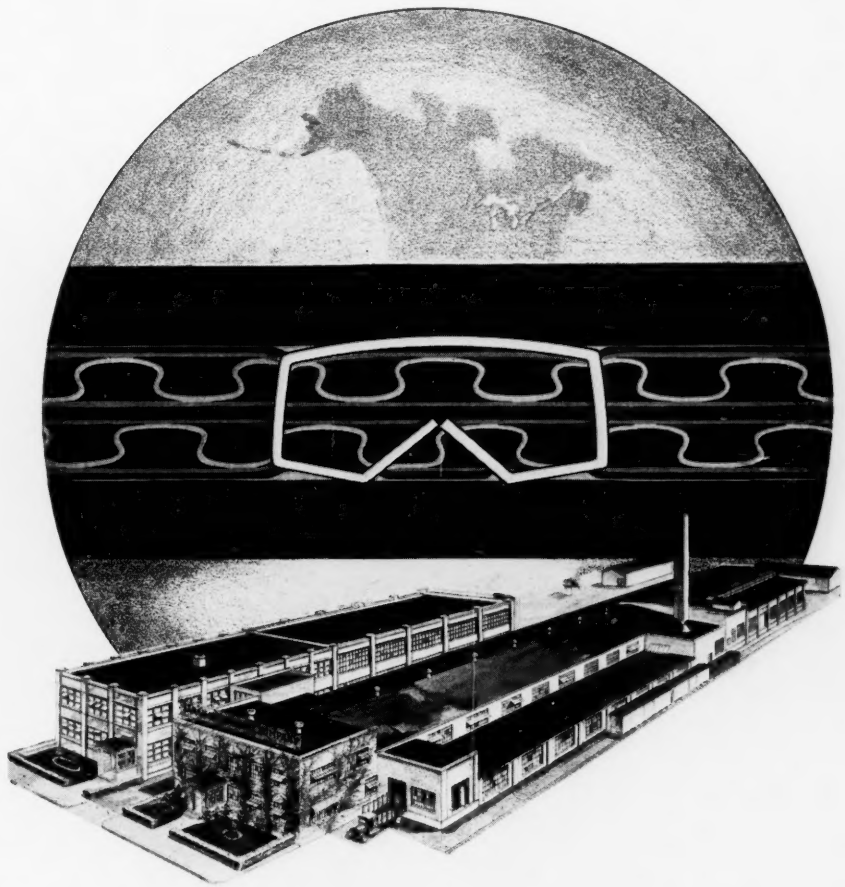
Special attachments, guides, feeding mechanisms, etc., can be installed to facilitate any of these operations where high production is desired.

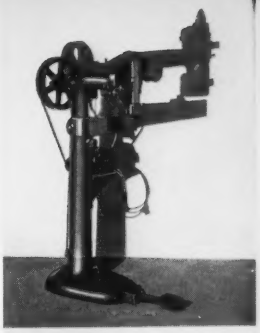
Bottom Stitching

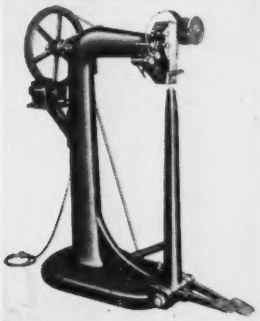
A bottom stitcher is nothing but a standard box stitcher without the clincher arm, a vertical post being substituted which is mounted on the base casting or frame. The post is 1 1/2 in. to 2 1/2 in. in diameter and the clincher is fitted into the top, which is reduced in area to 1 in. to 1 1/2 in. in diameter. The head of the post is adjustable, up or down; by hand to accommodate different thicknesses of board; and is usually constructed with a heavy spring inside the post, so that if extra heavy work is inserted without proper adjustment, the spring will give and the stitcher head not be damaged by the strain. The post is hinged at the bottom, and by depressing a special pedal may be tilted forward to permit easy insertion of the box before stitching. The best types of bottom stitchers have a considerable opening between the top of the post and the stitcher head, and when small or medium size boxes are being stitched the operator can usually place them over the post without tilting the latter forward, thus saving time in the operation. (This is the usual practice when stitching the bottoms of cracker caddies.) The regular operating pedal is then used to set the stitcher in operation. In some machines a single pedal is employed, and the post normally tilted in forward position. When the pedal is depressed the post is first moved into vertical position and locked in place, and the stitching then commences without further movement of the pedal. The stitching is not necessarily continuous, since by partly releasing the foot pedal the operation can be interrupted without releasing the post from its locked position.

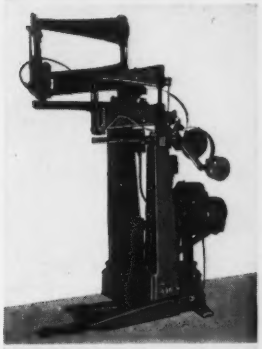
Duplex head bottom stitchers are also used; a single stitcher head being arranged to drive two stitches at once, with the crowns in line and spaced two and one-

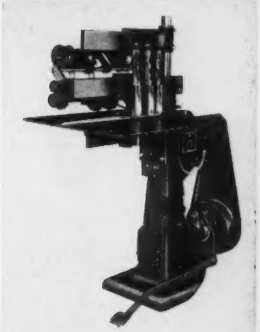
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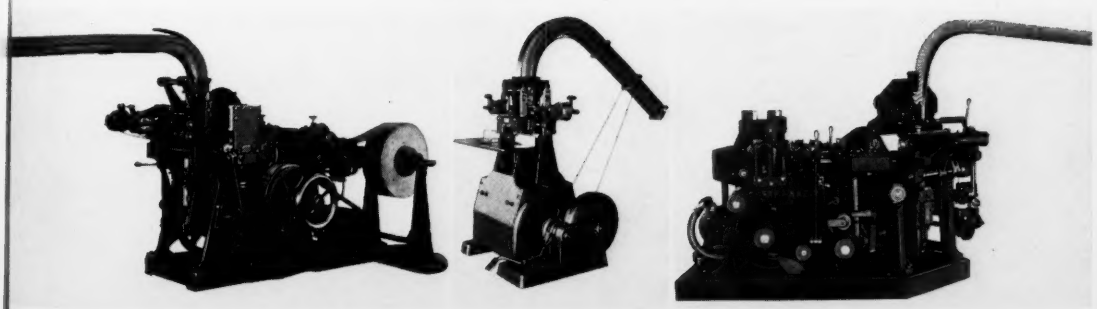








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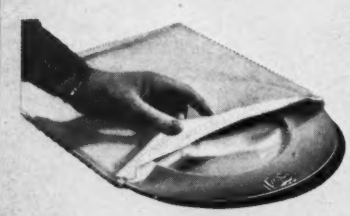
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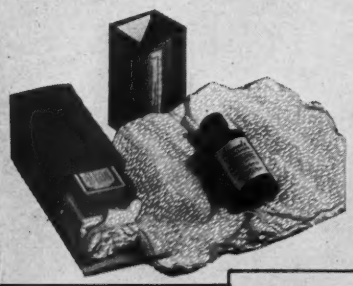
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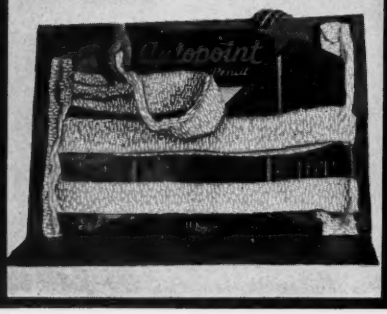
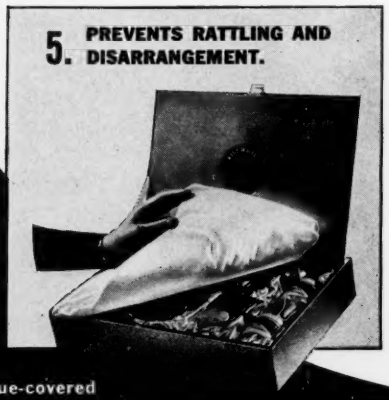


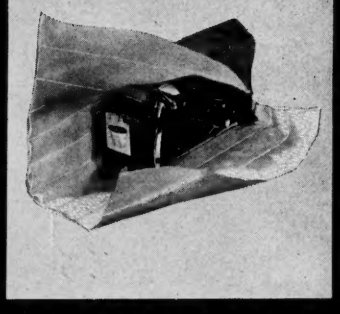
Photo at right shows how KIMPAK protects both pencils and "Big Six" retail display easel for Autopoint Co.

5. PREVENTS RATTLING AND DISARRANGEMENT.



A pad of tissue-covered KIMPAK used in the attractive display box of Blue Waltz, Inc., keeps toiletries intact.

6. HAS MANY DIFFERENT USES.



The Nashua Package Sealing Co. find KIMPAK the ideal packing material for their sealing machines.

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You, too, can assure your product the best protection in transit. For there is a convenient form of KIMPAK to solve your shipping problem. KIMPAK is soft and cushion-like. Contains no gritty particles to scratch or mar. Your product may be very fragile or expensively finished; it may be made of glass, metal or any other material, yet KIMPAK will guard it against damage or breakage.

KIMPAK comes in rolls, sheets, and pads of various thicknesses. It is light and flexible, as easy to use as a piece of string. It saves time and labor in packing. KIMPAK is economical to use. Mail coupon for *free* portfolio of samples.

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To meet postal regulations and for protection Angostura-Wuppermann Corporation use KIMPAK.

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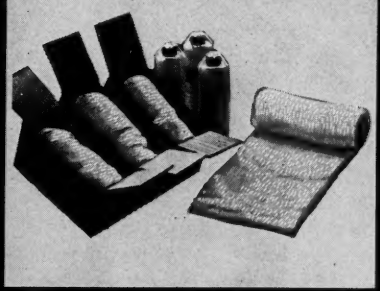


Photo shows how easily KIMPAK is applied as a resilient stuffer in packing the product of Pro-Ker Laboratories.

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half inches apart. A short bar is placed on the top of the bottom post, fitted with two clinchers properly spaced. Double head bottom stitchers have two stitcher heads which may be placed in fixed position (nonadjustable) for repetitive work on one side of box, or which may have narrow stitcher heads adjustably mounted. In either case a bar is fastened to the top of the post in which the clincher blocks are mounted, and for the adjustable machine the clincher blocks are movable over a certain range.

Bottom Stitching of Slotted Containers

In many industries it has been found good practice to stitch the bottom flaps of slotted containers before they are loaded, the advantage being that the box is thus held firmly in shape with a secure bottom closure, while the goods are being inserted. In the glass bottle industry, for example, cases are usually bottom stitched, and after loading the top flaps are temporarily sealed by spot gluing, temporary stitching or taping and then shipped to the user, who fills the empty bottles, labels them, reloads in the box in which the empties were received and then seals the tops.

Bottom stitching gives a secure and strong attachment of the bottom flaps, unaffected by moist conditions of storage which would weaken a closure made with tape or glue. Furthermore, cases can be bottom stitched very much more rapidly than they can be glued or taped. Several conditions of bottom stitching are met with, the more important being described.

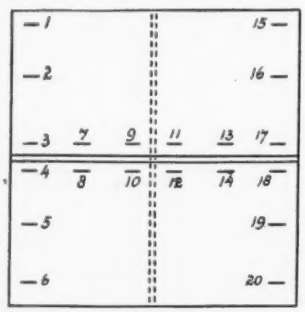


Fig. 7

All flaps of case meet in center. This condition is met in all square containers or in center-special slotted cartons. When using a single head machine the stitches may be placed in the order shown in Fig. 7, or the stitches along the center may be placed first to hold the box in shape and the ends then stitched. The box should be held firmly from the two sides so as to hold the box square and avoid any gap between the outer flaps. The stitches should not be over $2^1/_2$ in. apart and the stitches along the edges of the abutting outer flaps are usually placed close to the edge. Double stitches are often placed at 9, 10, 11 and 12 the better to hold the inner flaps to the outer. Care should be taken that the stitches are tightly clinched so that the inside of the box will be smooth. When stitching corrugated boxes the container may be held at an angle to the machine, thus allowing stitches to be driven diagonally across the corrugations to give greater holding power.

Outer flaps meet, inner flaps not over 6 in. apart. The same method of stitching is used on slotted cartons which are not square, but in which the inner flaps are not more than six inches apart. No stitches, of course, are placed except where there are two thicknesses of board.

Outer flaps meet, inner flaps over 6 in. apart. Where the inner flaps are over 6 in. apart the Classification requires that if wire stitching is used, the outer flaps must be overlapped one inch or more and attached by wire stitches not over $2^1/_2$ in. apart.

Outer flaps overlapped. Containers of this construction are much used in the shoe and other industries, and when stitched on a single head machine, the center overlap (1 in. or more) is stitched first, the sides of the box being firmly held between the hands of the operator. The stitches are placed across the overlap as the box is most easily held when the seam, or length of the box, is in the direction of the arm of the machine. The stitches on the ends may be placed either in the same direction as those on the seam or at 45 deg. or 90 deg. Of course all stitches may be placed parallel to the seam, but this is slower and not usually done. When the outer flaps are overlapped one inch or more the box may be of any length, without regard to the space between the ends of the inner flaps.

Full overlap boxes. Boxes with the bottom flaps fully overlapped are often sealed with glue; but when wire stitched it is usual to cut down the overlap to 1 in. in order to save material, except where the case is very long and narrow and extra rigidity is wanted.

Double head bottom stitching. In one method of bottom stitching of boxes, the outer flaps of which meet and the inner flaps meet or are not over 6 in. apart, the heads are set so that one stitch will be driven just inside the end of the box and the other just inside the edge of the opposite inner flap. The ends of the clincher bar form guides for spacing the stitches from the side of the box. The stitches are placed in order, one side being completed first, the box moved over on the post and the other two rows placed. An adjustable table is often fitted around the post to support the projecting top flaps of the box, which helps to hold the bottom flaps in flat position during the stitching operation. A disadvantage of double head stitching is that eight more stitches must be placed than are required by the Classification. The extra cost of these eight stitches is, however, usually not of importance compared with the value of the extra speed of the operation.

In single head stitching from three to six boxes per minute can be bottom stitched by one operator, while on a double head machine the output can be increased by 75 per cent or more. The output, however, will not be doubled, since an important part of the time of the operation is required for folding the box in shape, placing on the machine, and for removing the finished box after stitching.

Duplex head bottom stitching. A duplex head stitcher, driving two stitches at once, spaced $2^1/_2$ in. on centers, can be used on all boxes, whether the outer flaps meet or overlap; whereas a double head stitcher cannot be used on overlapped flaps since there is no way of placing the stitches in the center part of the seam. When used on a box with the outer flaps meeting the center seam is

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stitched first, the stitches straddling the joint. By holding the box at an angle to the machine the stitches may be driven diagonally and thus brought closer to the joint than when placed at right angles. The ends of the box are then stitched, the stitches being placed in the order shown, two at a time.

When stitching a box with center overlap it is easier to stitch the ends first (since the box can be better held if both ends are equidistant from the body), the center seam being then completed. This can be reversed, however, and the center seam stitched first, but in this case one arm must be extended over the box to hold the opposite side until the first stitches have been driven. Duplex head stitching is not quite as fast as double head stitching since the position of the stitches in the center of the box, or on the overlap, must be judged by the eye (as in the case of single head stitching) although the stitches along the ends may be rapidly driven because the clinching arm forms a guide. It is, however, a method of wider application since it can be used without any machine adjustment for all sizes of boxes and for all flap constructions, and is much faster than single head stitching under average operations.

Cracker caddies. These small cracker boxes have the bottom flaps overlapped about $^3/_4$ in., and two stitches are used on the small sizes and four or more on large caddies. Single or duplex head machines may be used, with two operatives, one of whom folds the box in shape and hands it to the second who does the stitching. Speeds of 30 boxes per minute on single head machines are not unusual.

Top stitching. A standard top stitcher comprises a box stitcher without the solid clincher arm, in replacement of which a thin steel blade is used with the clincher set in the end. This blade anvil is made of forged steel and is tapered toward the front to make it as thin as possible, being somewhat flexible as a result. These machines are made with blades up to 33 in. in length, which is adequate to handle any length of box in regular use.

Since the top stitching operation is always conducted on boxes that have been filled and may be of considerable weight, a work table is provided which is fitted with ball-bearings on which the box may be easily moved in any direction. This table is counterbalanced by means of springs or counterweights, and is quickly and easily adjustable up or down by hand, so that when the box is placed upon it the top flaps will be in proper position for the insertion of the blade anvil. When in use the operator lifts the case onto the table, stitches the flaps in order and removes the finished case to a truck or conveyor. When containers of varying heights are used they are placed on the table and the latter adjusted to the proper height.

A recent development in top stitching involves the use of a table lifted by means of the motor on the machine. The table lifting mechanism is connected to the motor through a special clutch, and a separate double-action foot pedal is used for its control. When the back of the foot pedal is depressed by the operator the table and case are lifted, a stop being attached to the head which automatically brings the table to rest at just the right position for the blade anvil to enter under the top flaps. By depressing the front of the pedal the table is lowered again, while a brake is engaged when in neutral position to hold the table rigidly in place.

This machine can be placed beside a conveyor line, or made a part of the same, the lower position of the table being fixed at the proper level. Each loaded case as it comes to the stitcher is moved onto the table, raised by the power lift to the stitching point, stitched, lowered and pushed onto the discharge conveyor. This relieves the operator of the fatigue inherent in the lifting of each package by hand and also eliminates the danger of tearing the flaps and corners of the box when the latter is handled, unsupported by the table, before sealing. An operator using this type of machine can handle many more cases per day than by the old method and with a minimum of physical effort and fatigue, since a 90-lb. case can be as easily and quickly manipulated as an empty one. The use of this machine also minimizes the danger of damage to the case or its contents by forcing the blade anvil under the top flaps when not in proper position for operation.

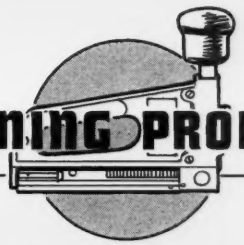
Standard top stitchers are much used in the form of combination with a bottom post, the latter being removable while the blade anvil and table can be swung out of the way when used for bottom stitching. The change from one use to the other can be made in one minute, without the use of tools, and this machine is popular in small or highly departmentalized plants where a combination of operations is desirable.

Portable top stitcher. This machine is entirely self-contained, with built-in universal motor, and weighs but 20 lbs. In use it is suspended from an overhead trolley by means of a spring, so that the machine hangs freely and can be moved in any direction at the will of the operator without having to lift it. For top stitching small boxes or for setting temporary stitches for warehousing, a 10-in. blade anvil may be used, while for general purposes a C-shaped anvil is employed. This is a miniature equivalent of an open head device, but capable of doing work not possible on an open head. The C anvil can be turned at the corners of the box, and when the last stitch has been driven the shape of the anvil is such that it can be withdrawn from the seam by a rotary motion, leaving not over a 2-in. opening. This machine is of advantage in sealing the tops of large and heavy boxes, since the latter do not require to be moved from the truck or conveyor, but the stitcher is brought to the box and moved freely around the seams, thus permitting more efficient operation.

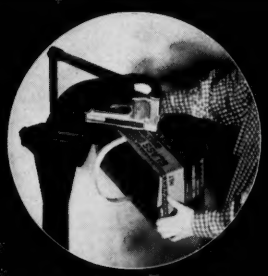
Under the Classification requirements of Rule 41, top stitching is permitted when the outer flaps meet and the inner flaps are not over 6 in. apart, or where the top flaps overlap one inch or more, in which event the inner flaps may be any distance apart. In no case may the inner flaps be less than one inch in width, and they are frequently extended in three piece Bliss boxes to from two to four inches for extra strength and rigidity. The stitches must be not over $2^1/_2$ in. apart, and all seams

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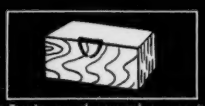
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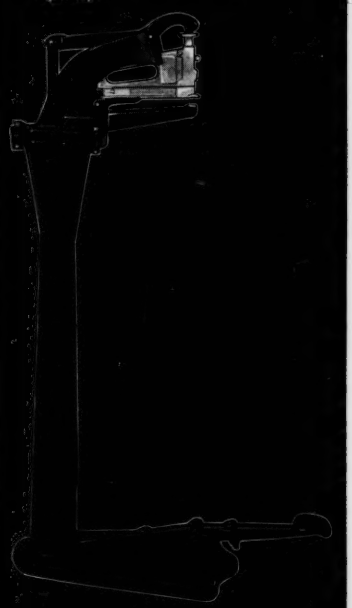


No. 4 BOTTOM STITCHER
For stitching bottoms of corrugated or fibre containers.

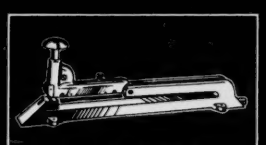
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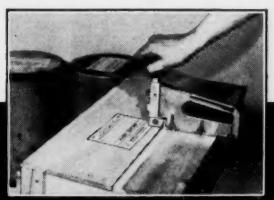
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must be completely stitched, allowance being made for sufficient space for the withdrawal of the clinching device (blade anvil). It is also permissible under the rulings to stitch the side overlapping seam and to glue the end flaps, provided that the latter are not less than 2 in. in width and are brought outside the case.

Mattress Cases. These boxes are long and wide and only from 5 in. to 6 in. deep. The best method of stitching the end openings is to have the outer flaps overlap $1^1/_4$ in. and then stitched with a portable stitcher with C anvil. The box may be stood on end beside a platform so that the operator will be at a convenient working height. The bottom of the mattress case can also be stitched by the same method.

Cracker boxes and caddies. Cracker boxes are not usually top stitched, the covers being fitted over the tops of the boxes and taped to the sides. However, two methods of attaching the tops by wire stitching have been developed and are in use in a number of plants. The first method requires the use of an inverted bellows flap on the body, comprising flaps on the top of the body which are turned back outside the box and the cover then fitted over the same.

The second method is applicable to cracker boxes of regular construction, without the use of extra flaps. A horizontal stitcher is employed, the blade anvil moving downwards instead of upwards as in the preceding method. The cover may have die cut slots, placed close to the edge, for the insertion of the tip of the blade anvil (which is made very narrow and thin for this work). As each stitch is driven the anvil is automatically moved down through the slot and then withdrawn again, and thus made ready for the next operation.

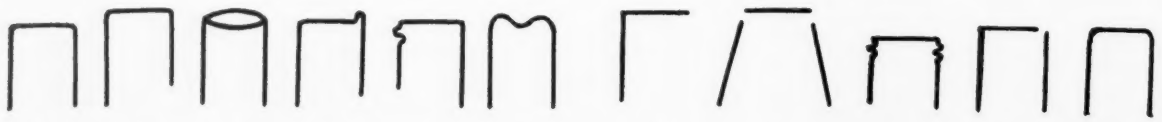
When large cracker boxes are used made of corrugated board (which may or may not have separable covers), the previously cut slots may be omitted, the end of the blade being sharpened so that as it descends it cuts its own slot through the board. The use of slots in the top of the box does not leave appreciable openings, since the board is pliable and when the thin blade is withdrawn the fibre springs back into nearly its original position.

Bumper boxes. These boxes, used for automobile bumpers, shade cloth, roll screen wire, and other long articles, are relatively small on the ends. A horizontal stitcher is used with a regular blade anvil (thinner than usual), and the machine usually has no base, the body being bolted to a table on which the box is placed. The ends of the box are pushed against the blade which is brought inside the outer flaps and the necessary stitches then driven.

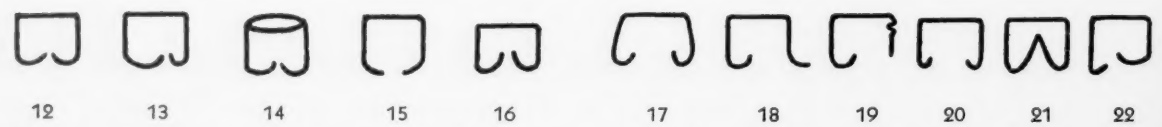
Telescope boxes. While telescope boxes are usually tied with rope to hold the two sections together, it is also possible to seal them by wire stitching on a machine with a blade anvil. To stitch the two sections together the end of the blade anvil is forced under the flap of the inner section and between it and the end or side (as the case may be) and stitches driven through the flap of the inner section and the overlapping cover, thus fastening the two sections together. Four stitches are used on each box.

Temporary top stitching. Where filled containers are to be warehoused, and must be opened again before the final sealing, only a few stitches are placed. In one method the top flaps are folded inside the inner flaps and four stitches placed by inserting the blade under the flaps and stitching the four overlapping edges, thus forming a temporary seal.

The accompanying chart shows illustrations of perfect and imperfect stitches, together with the causes of the imperfections. Practically all defects in wire stitching arise from improper adjustment or from the presence in the stitcher head of worn parts needing replacement.



UNCLINCHED: 1. Perfect stitch. 2. Legs uneven, either leg may be too long. 3. Crown twisted and not flat, spring broken and anvil does not function. 4. Right driver tip broken. Either or both may break or chip. 5. Left leg buckles. Either leg or both may buckle. Dull knife or wire too small. 6. Wrong size wire, or insufficient compression on heavy work. Supporter retracts too easily. 7. One leg missing. Improper anvil adjustment, or wire slipping in feed gears. 8. Wire comes out in pieces. Anvil not lined up with former grooves. 9. Both legs buckled. Wire too small, clincher too narrow or dull knife. 10. Corner broken or nearly cut through. Wire too hard, corner of shoe too sharp, driver corners sharp or formers worn. 11. Corners rounded, anvil worn on edges, wire will bind in anvil.



CLINCHED: 12. Perfect stitch. 13. Legs uneven. Either leg may be too long. 14. Crown twisted and not flat. Spring broken and anvil does not function. 15. Clincher too low. 16. Clincher too high. 17. Legs spread. Poor cutting, worn formers or thickness of work beyond capacity of machine. 18. Only one leg clinched in. Clincher not in line with driver. 19. One leg buckled. Clincher not in line with driver, or too narrow. 20. Short legs. Insufficient wire draw. 21. Legs cross. Wire draw too great. 22. Uneven clinching. Clincher not level and parallel with formers.



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WOODEN BOXES

WOODEN BOXES are divided into several classes, according to the construction of the ends. The various boxes are designated as Styles 1, 2, 2½, 3, 4, 5, 6, 7 and 8. Styles 1 to 5, inclusive, are nailed wooden boxes, while Styles 6, 7 and 8 are of the lock-corner type.

Many special styles of boxes have been developed for particular conditions and commodities. Whether or not a returnable box should be adopted for carrying a commodity depends wholly upon the economic phases of the problem. Returnable boxes, if made collapsible, occupy less space in shipment and storage when empty, although such a construction does not permit of as much rigidity as in the non-collapsible returnable type. Style 1 boxes are the least expensive of any of the standard nailed wooden boxes, although they possess certain weaknesses which may render them objectionable when a very serviceable container is required.

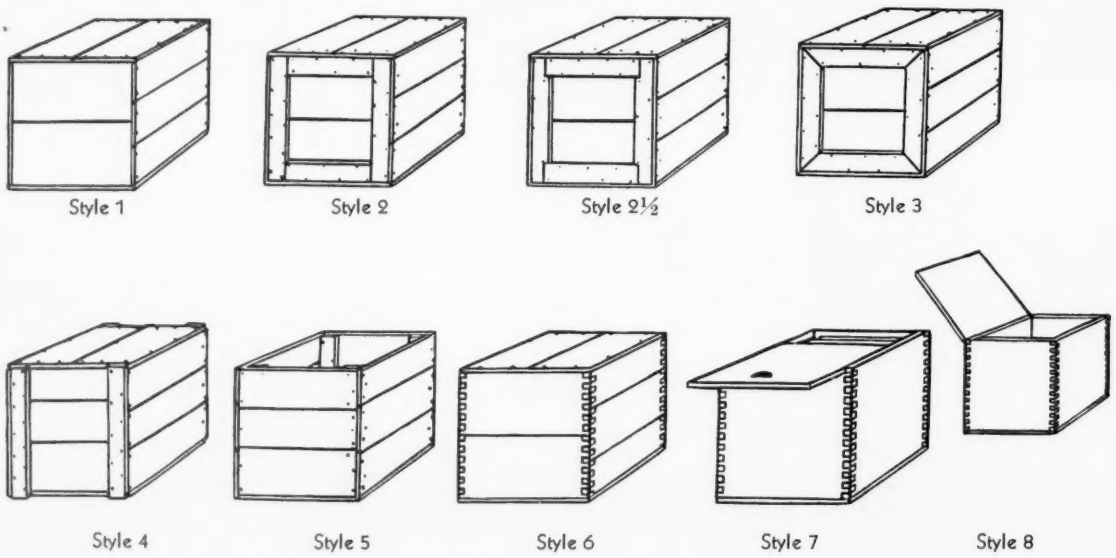
The principal weaknesses in the Style 1 box are overcome by constructing according to the Style 4 or Style 5 principle, both of which are similar except that Style 5 has the vertical cleats placed on the inside of the box.

This construction prevents the box ends from splitting and supplements the holding power of the nails driven through the sides into the end grain of the end, because some of these nails can be driven through the sides into the side grain of the cleats. In the Style 4 box the cleats should be long enough to come nearly flush with the outer surfaces of the top and bottom. Likewise, on the Style 5 box the inside cleats should be slightly shorter than the inside depth of the box so that if the sides and ends shrink the cleats will not cause an opening of the joints between the bottom and the ends.

An improvement over the Style 4 or 5 box is Style 2, which has two vertical and two horizontal cleats on each end. Variations of the Style 2 box are Styles 2½ and 3, and while certain claims are made for these two over Style 2, there is little difference in the durability of all three of these styles with 4 cleats per end. Style 2½ has the advantage that when the bottom and top are being nailed to the ends the notches on the vertical cleats take the thrust that would otherwise come on the nails holding the horizontal cleats to the end. Style 3 has the advantage that if the box has square ends all of the four cleats will be of the same length.

In addition to the five standard styles of nailed wooden boxes there are three standard styles of *lock corner* boxes known as Styles 6, 7 and 8, respectively. Style 6 in this group is the common and most used type.

These boxes are of the type in which the sides and ends are joined by a series of tenons cut in each end of the interlocking pieces. The joints or locks are held together by gluing and the top or bottom as in the Style 6 are nailed on. Styles 7 and 8, as will be noted by the illustrations, have the bottoms held in place by nailing while the top in the Style 7 has a sliding lid or cover and in the Style 8 the top is hinged.



Style 1: Nailed wooden box; uncleated ends, sides held by end grain nailing. Style 2: Nailed wooden box; double cleated ends eliminate weaknesses found in Styles 1, 4 and 5. Styles 2½ and 3: Variations of Style 2 box. Style 4: Nailed wooden box; outside cleats. Style 5: Nailed wooden box; inside cleats. Style 6: Lock corner box; cover and bottom held in place by nailing. Styles 7 and 8: Variations of Style 6 box

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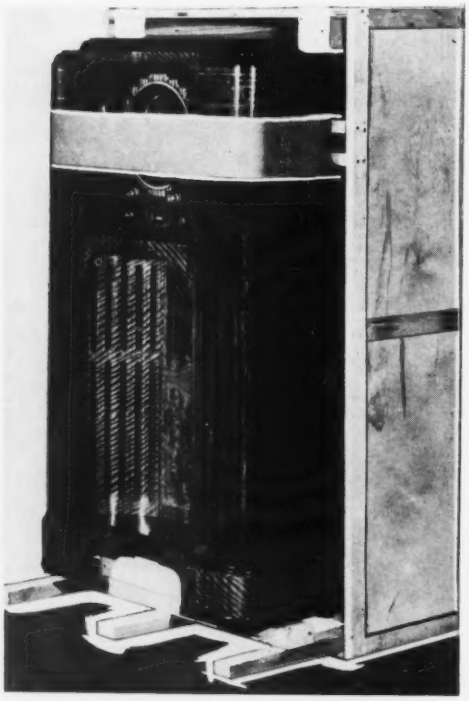
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PROTECTIVE SHIPPING MATERIALS

CREPE WADDING is extensively used as a packaging adjunct in the packing of tablets, capsules, ampoules and various pharmaceuticals, cosmetics, bottled goods, scientific instruments, fragile and highly polished specialties. Such wadding to meet the several requirements should be white, soft, of dependable consistency in thickness and grade and be highly absorbent. Crepe wadding absorbs sixteen times its own weight in moisture. It may be obtained in rolls, sheets and pads.

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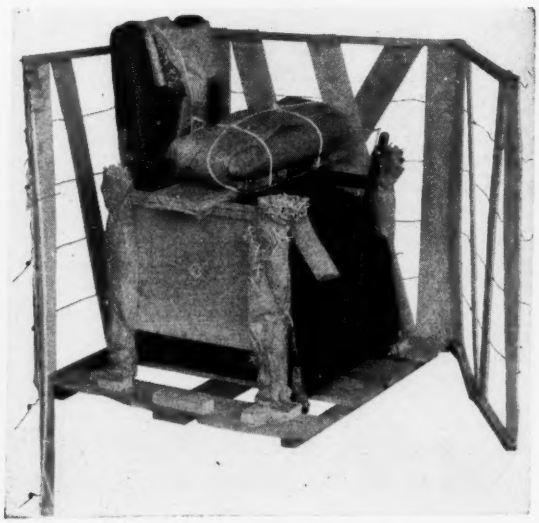
This material, provided in various thicknesses and paper backed, ready for use, is also utilized for box top padding. Among the economies which have been pointed out by companies who have used this padding are the following: due to the paper backing and the flatness and uniformity of sheets, it can be readily jogged in a cutter, while most padding has to be laid out separately, each sheet at a time; the paper backing eliminates the need of placing a padding and a manila sheet on separately when they are applied at the wrapping machine.



Crepe wadding used for radio packing



Crepe wadding used as protective pad

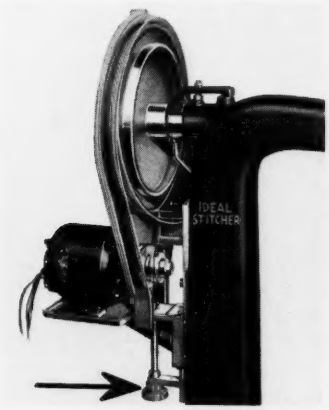


Packing pads as used for protection in shipment

PACKING PADS consisting of a kraft wrapper filled with straw or wood excelsior have been a staple packing material for years. During the last two years, paper excelsior pads with sealed ends have been successfully used. In these there is no possibility of the filling sifting out and the absence of chips and hard wooden curls has eliminated marking. For furniture, ice-boxes, stoves, toys, tile, novelties, electrical appliances, etc., these packing pads give excellent protection at a minimum cost and permit faster, easier packing. They are manufactured in all sizes from $3\frac{1}{2}$ in. $\times$ 6 in. up to 15 in. and up to 72 in. in length.

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BOTTOM STITCHERS. For slotted carton bottoms, also for caddy bottoms.
STRAIGHT ARM STITCHER. For Bliss-type boxes, telescope boxes, suit boxes, recessed end boxes, display card boxes, cracker caddy lids, solid fibre or corrugated cartons, display cards, cellophane bag stitching, paper coal bags, floral boxes, packaged pies, coffee rings, cakes, various types of flat stitching jobs. Tables and gauges furnished for various special jobs.
ANGLE ARM STITCHER. Particularly adapted to telescope box work, where vertical stitches are desired. Designed to handle either two or three thicknesses of paper board without changing adjustment.
ANGLE HEAD STITCHER. Designed to handle any flat work where vertical stitch might be desired; i.e., advertising cut-outs, regular slotted carton corners, etc.
45° ANGLE STITCHER. For corrugated or fibre carton manufacturers, for stitching corner seams.
CORNER STITCHER. For caddy lids, stay corners on set-up boxes, corners on fibre or light weight wooden cases, trunks, suit cases, etc.

BOTTOM STITCHER

Stitches bottoms of regular slotted containers (solid fibre or corrugated), caddies, or any type of work where post can be set under work to be stitched. 12" machine handles cartons up to 24" square by 40" deep; 20" machine handles cartons up to 40" square by 43" deep. Can be made to handle standard flat ribbon wires or other flat and round sizes.



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ANGLE ARM STITCHER

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STITCHER HEAD

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45° ANGLE HEAD STITCHER

Equipped with open head or clincher tongue attachment and table. Drives the stitch at a 45° angle to the manufacturer's seam. Particularly designed for stitching corrugated or solid fibre containers. Built in 27", 33", or 37" throat sizes.



STRAIGHT ARM STITCHER

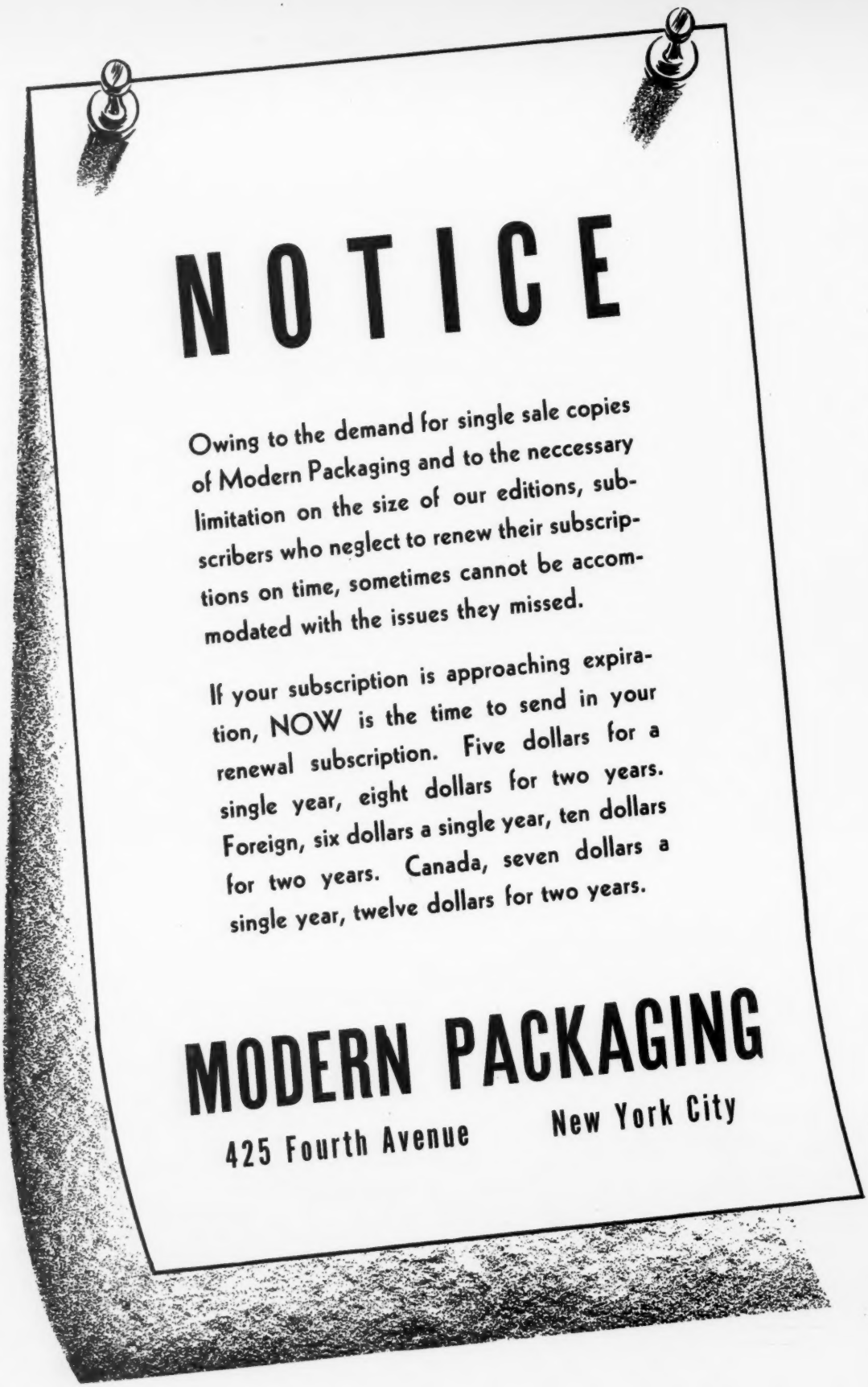
Stitches regular line of corrugated or solid fibre shipping containers. Telescope boxes, suit boxes, folding boxes, bags, coal bags, display cards, display stands, display boxes and other specialties. Can be equipped with tables and gauges for any particular job. Made in 12", 20", 25" and 30" throat sizes.

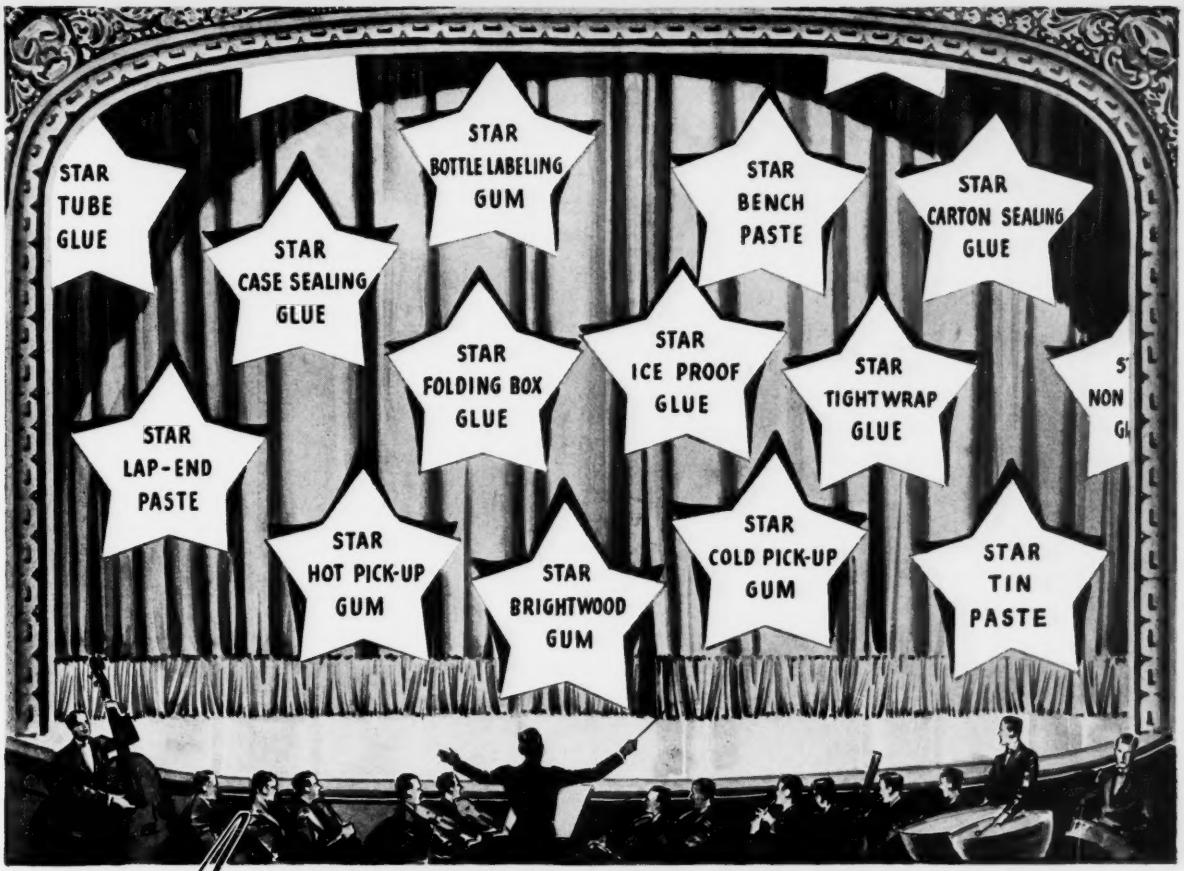


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